FEBRUARY 6, 1956 How Methods Study Saves $20,000 p. 54

RAILWAY AGE

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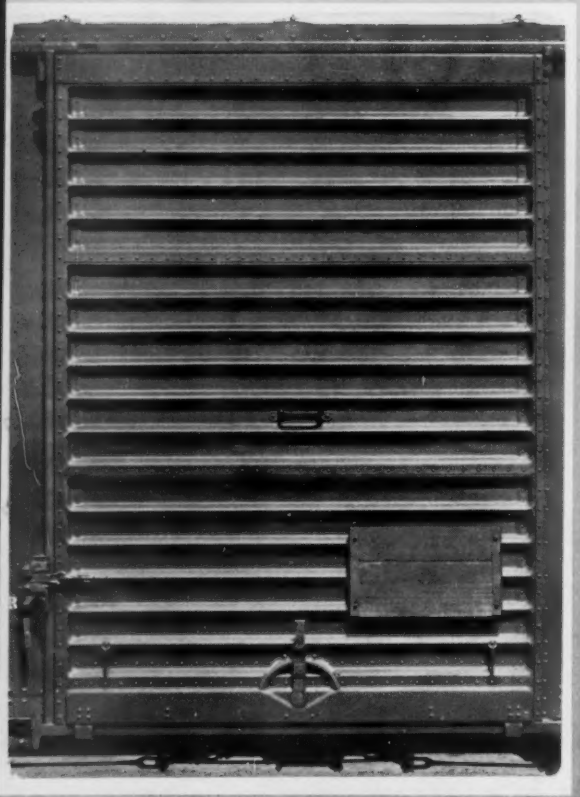
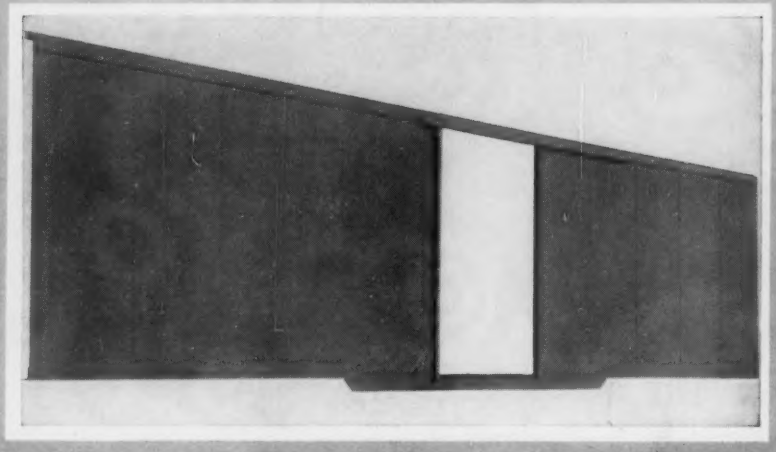
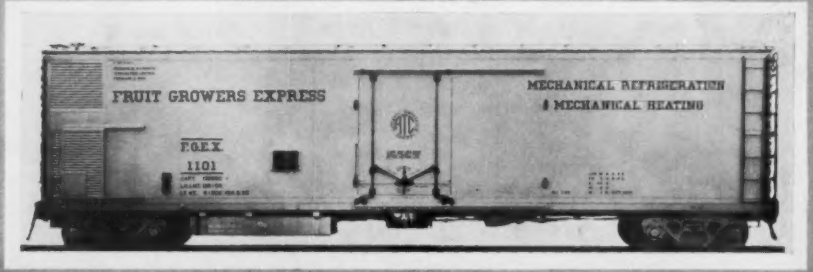


Center Operated Lift Door



Box Car Side Unit



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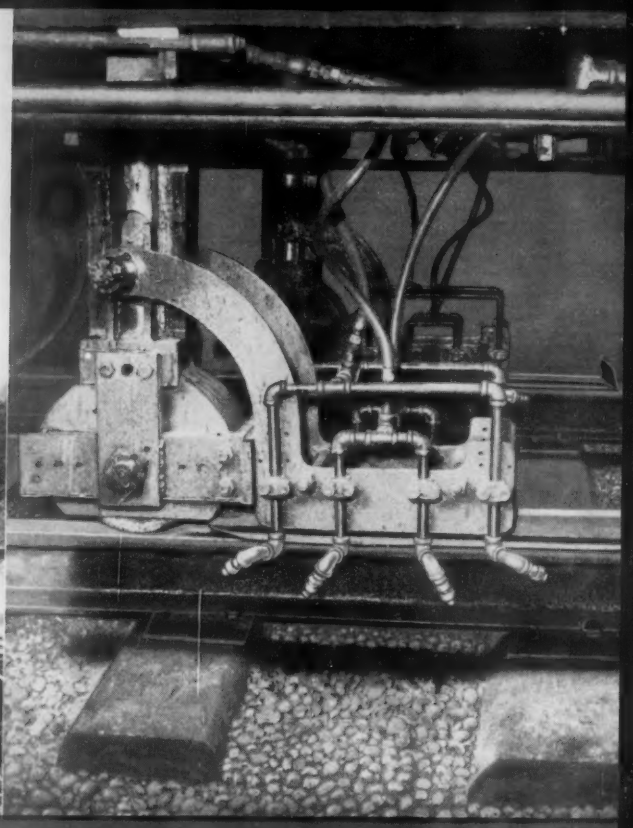

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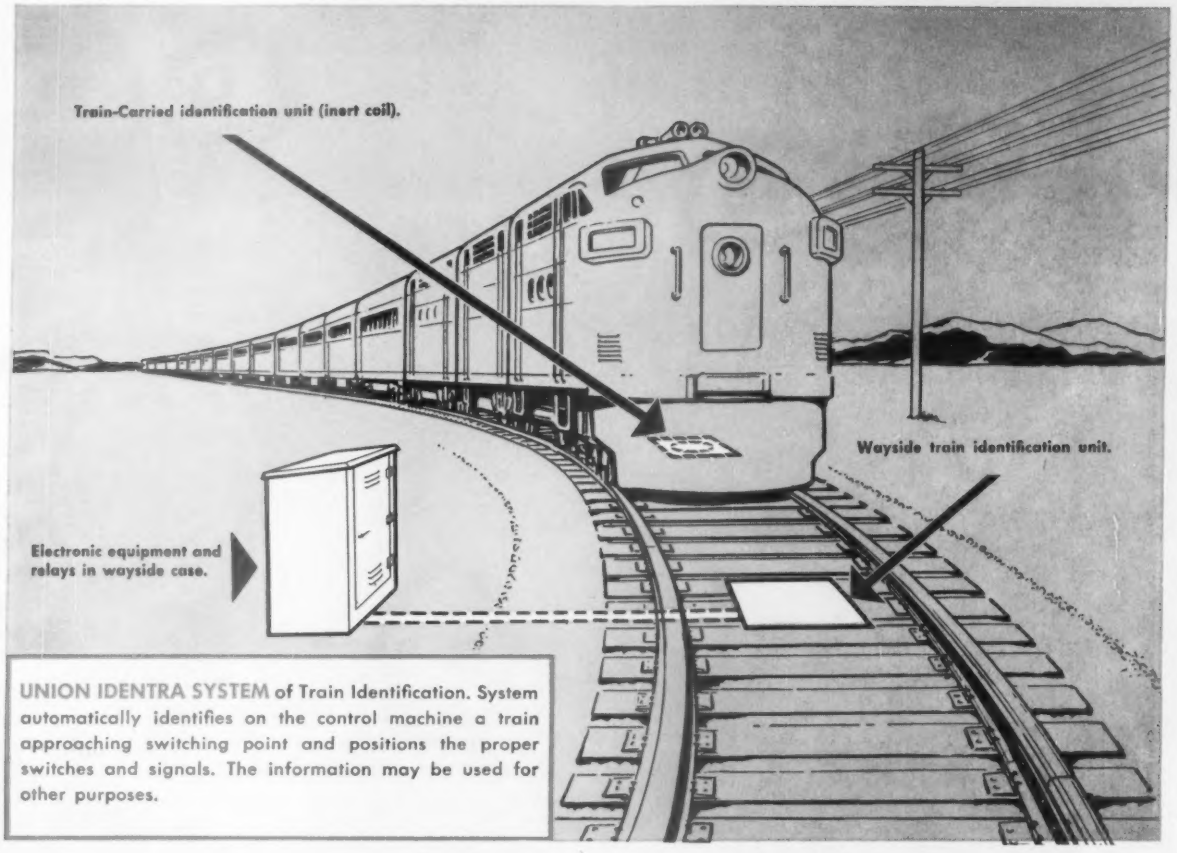
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Wayside train identification unit.
Electronic equipment and relays in wayside case.

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Vol. 140, No. 6
February 6, 1956

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Current Statistics

Operating revenues, eleven months	
1955	$9,248,147,540
1954	8,573,470,254
Operating expenses, eleven months	
1955	$6,951,141,263
1954	6,755,791,805
Taxes, eleven months	
1955	$1,017,788,031
1954	821,712,588
Net railway operating income, eleven months	
1955	$1,050,329,204
1954	766,016,100
Net income, estimated, eleven months	
1955	$ 830,000,000
1954	562,000,000
Average price 20 railroad stocks	
January 31, 1956	97.10
February 1, 1955	86.05
Carloadings revenue freight	
Three weeks, 1956	2,020,923
Three weeks, 1955	1,867,536
Average daily freight car surplus	
Wk. ended Jan. 28, 1956	5,937
Wk. ended Jan. 29, 1955	65,781
Average daily freight car shortage	
Wk. ended Jan. 28, 1956	4,435
Wk. ended Jan. 29, 1955	603
Freight cars on order	
January 1, 1956	147,320
January 1, 1955	15,317
Freight cars delivered	
Twelve months, 1955	36,896
Twelve months, 1954	35,558
Average inumber of railroad employees	
Mid-December 1955	1,070,964
Mid-December 1954	1,029,191

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BRIEFS

Sixty-five billion dollars would be required to replace the railroads on the basis of 1954 spot prices. Latest reproduction-cost figure of $53¼ billion, issued by the ICC's Bureau of Accounts, Cost Finding and Valuation, was based on period prices 16% below the 1954 level. Adjusting for this, and adding the bureau's $2 billion figure for land and rights, brings the $65 billion.

Modification of the GM "Aerotrains," will be completed "in about three weeks." The NYC train will then go to the Santa Fe for a "railfan" trip from Chicago to Los Angeles March 1, after which it will be further tested by various Western roads. Meanwhile, one car from each 10-car "Aerotrain" has been returned to GM's Electro-Motive Division at LaGrange, Ill., for further engineering studies and tests.

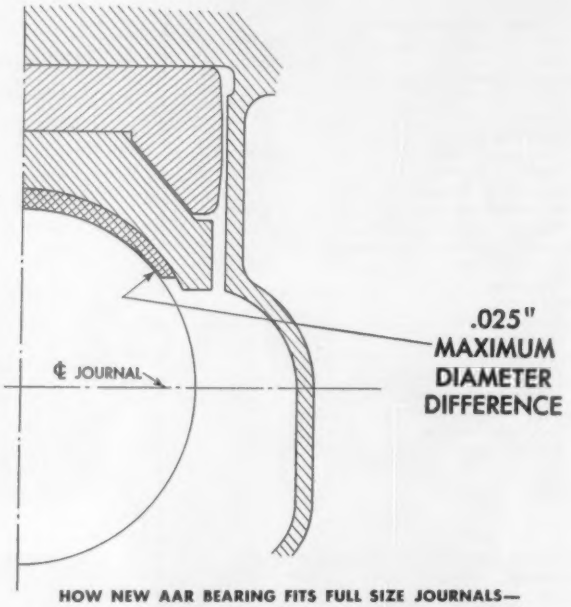
Look for the Pullman Company to request its first fare increase since 1951—possibly as much as 7 per cent. Behind the increase: a big rise in Pullman's costs.

New AAR Standard

"CONTROLLED CLEARANCE" freight car bearings in FULL and STEP SIZES designed to make solid bearing performance

BETTER THAN EVER!

New bearing designs, developed by AAR and made effective March 1, 1956, to provide big extra margin of safety during initial run-in period by distributing bearing load over wider area. Step sizes for undersize journals to increase bearing efficiency throughout life of axle.



HOW NEW AAR BEARING FITS FULL SIZE JOURNALS— Newly revised bore dimensions and tolerances, combined with journal tolerances, assure bearing clearance within .010" and .025". Old style bearing dimensions and tolerances permitted maximum clearance of 1/8" on full size journals and same bearing was applied to all undersize journals.

Now AAR solid bearings will get a chance to work at optimum efficiency almost as soon as they are installed. The reason: bore diameters and tolerances are greatly reduced. These new "controlled clearance" designs, combined with babbitt's high conformability, mean that you'll distribute the load evenly through the bearing crown after only a few miles operation. You'll get far greater bearing load capacity during initial operation.

But that's not all. Now the AAR has two step size bearings (below nominal) for each standard size axle to accommodate turned down journals. Here's a big step toward the same high degree of bearing efficiency throughout the life of the axle.

Up to now the average solid bearing freight car has run 12 to 15 years per road failure of a bearing. Now you can look for that good record to improve—hot boxes to go down, miles per hot box to go up. Yes, you can expect still better solid bearing performance in the future—and at the lowest possible cost. Magnus Metal Corporation, 111 Broadway, New York 6; or 80 E. Jackson Blvd., Chicago 4.

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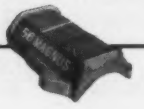
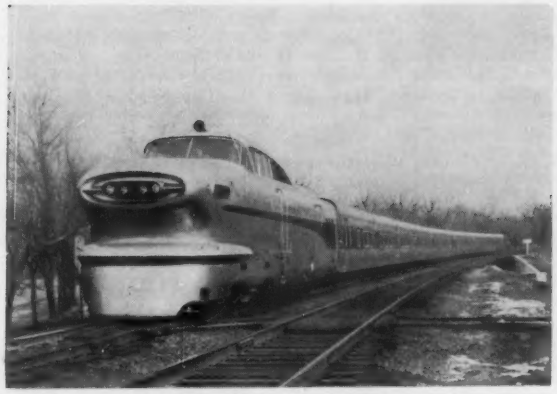




FIRST RUN of Rock Island's new ACF-built "Jet Rocket" (left, above), was made last week between Chicago and Peoria, Ill. Train will begin regular revenue service between those cities February 11. Three-unit coaches (right, above), have maximum seating capacity of 96. Good use of space between units, provides spaciousness through entire car.

"Jet Rocket" Takes to the Rails

Rock Island's new Talgo-type train makes its first trip between Chicago and Peoria—Begins regular service between those points February 11

The Rock Island unveiled its new Talgo-type "Jet Rocket" last week on a 161-mile demonstration run between Chicago and Peoria, Ill.

Slated to begin regular operation between Chicago and Peoria on February 11, the "Jet Rocket" will be the first of the new low-slung lightweight trains to go into revenue service. The train will make two round trips daily.

Between the special run on January 30, and its assignment to regular service, the train will be displayed at major cities on the Rock Island.

Not Experimental—Rock Island officers emphasize that the new "Jet Rocket" is not an experimental train. The train, built by ACF Industries, retains basic Talgo principles proven through six years' actual service in Spain. Modifications in the original design have been made to fit American operational requirements (*Railway Age*, December 26, 1955, pp. 24-27).

The "Jet Rocket" consists of four cars, each made up of three articulated units, and a 1,200-hp diesel locomotive. The locomotive was built by the Electro-Motive Division of General Motors Corporation.

Cost of the train, including motive power, is $788,000. This averages about $2,300 per seat, and compares, according to the Rock Island, with $3,800 per seat for conventional equipment.

As created for the Rock Island, the "Jet Rocket" has maximum seating capacity, including parlor, bar-lounge and dining car seats, for 340. Coach seats alone total 276. The diner seats 32, the parlor car 20, and the bar-lounge 12.

The train's baggage compartment is in one of the three-unit coaches, which reduces seating in that car to 84, from the normal 96.

Fuel cost of the new "Jet Rocket"

"JET ROCKET" DINER (left, above), seats 32 and will feature reasonably priced meals. Two round trips daily between Chicago-Peoria, between 7 a.m. and 8:50 p.m., means the diner will offer all meals. A 20-seat parlor unit and a 12-seat bar-lounge (right, above), are among the train's "extras." The Rock Island says the "Jet Rocket's" windows "are the widest of any passenger coach in operation today."

TV BRINGS SCENERY INSIDE

Passengers on last week's maiden run of the Rock Island's "Jet Rocket" got an "engineer's eye" view of the trip through an experimental TV installation.

A Farnsworth Eye-TV camera, just left of center of the locomotive cab, was connected, by coaxial cable, to a large-screen receiver in the parlor car. Passengers were able to enjoy approaching scenery in complete comfort.

Engineers of the International Telephone & Telegraph Corp. installed the special TV equipment. Rock Island officers said they believe this new idea may have merit for revenue service by making rail travel more attractive.

is about one-third that of the conventional "Peoria Rocket," the train it will replace. According to a Rock Island spokesman, the "Jet Rocket's" fuel cost is $10 for the Chicago-Peoria run. For the "Peoria Rocket" it is $29.

I. C. Bruce, Rock Island general passenger traffic manager, said the road is giving "serious consideration" to reducing coach fares. The road hopes, he added, to pass to customers the savings which come from the new-type equipment.

Weight of the "Jet Rocket," including locomotive, is slightly over half that of conventional equipment. The entire train weighs 451,000 lb, compared with 807,100 lb, including locomotive, for the conventional "Peoria Rocket."

The new train is equipped with two-way radio, providing continuous contact with six wayside stations along its route. Crew members also have two-way portable radio units for maintaining contact with the head end.

Jenks Likes It—"We believe that trains like the 'Jet Rocket' operating between cities like Chicago and Peoria have a tremendous future," D. B. Jenks, Rock Island president, said at last week's press run.

"The job now is to re-educate the public to the advantages of train travel, get them off crowded highways and into the comfort of worry-free relaxation that only a train provides," Mr. Jenks emphasized.

New Lineup Takes 6,156 Cars Out of Class I Fleet

The reclassification of railroads which the Interstate Commerce Commission made effective January 1 reduced the freight car fleet of Class I roads by 6,156 cars.

This was reported by Chairman A. H. Gass of the Car Service Division, AAR, in his latest review of the "National Transportation Situation." He explained, however, that the 6,156 cars are not lost to the transportation industry, but merely will no longer be included in AAR statistics.

Reclassification raised the minimum annual operating revenues for Class I roads from $1,000,000 to $3,000,000. Mr. Gass said this resulted in eight roads with total ownership of 7,144 cars being eliminated from the Class I group, and four roads with total ownership of 988 cars being brought in.

Allowance for the Class I group's net loss of 6,156 cars should be made in comparison with ownership for any prior date, Mr. Gass advised. Proceeding on that basis, he had this to say

MOTIVE POWER CHIEF CONCERN OF NEW HAVEN'S PRESIDENT

On the ground that "it is utter folly for a railroad president to do everything himself," George Alpert, new chief executive of the New Haven, is delegating many major concerns of the road's management to his staff.

Interviewed on the tenth day of his presidency of this much-in-the-news property, Mr. Alpert said he had spent thus far "at least half the time" of his period in office "on the locomotive situation," because he thinks he ought to get into the most critical thing first. Nor has he spent any time "finding out *why* the locomotive situation developed"; he has been too busy "trying to find out *how* to remedy it."

One result of this 10-day concentration on motive power was a public announcement January 31—see page 9 of this issue—that the New Haven "had purchased" a total of 140 units of new diesel power. (This total is *exclusive* of special motive power designed to propel new lightweight, integrated passenger trains on order, but is *inclusive* of 20 1,200-hp locomotives ordered in 1955, of which 5 have been received.) The announced order includes locomotive units on which preliminary purchase negotiations had been effected before Mr. Alpert's election as president, and reflects management study and decision in which he participated as a director.

It has been his job as president, however, to review the situation; enlargement of the purchase order "is the action we've taken after reappraising the situation."

The 140 units represent 40% of the road's entire present diesel locomotive inventory. According to schedule dates, 65 units will be received by the end of June, and 82 by the end of 1956—leaving 58 units for 1957 delivery.

Much time has been devoted by Mr. Alpert to negotiations with the Army to extend the rental time of 38 "universal" type military locomotives loaned out of Army emergency stocks for relief of railroads hit by the eastern floods. He succeeded in having the time for return and "remothballing" extended, with the last units returnable by March 31. At that date, there will be a net loss of 18 in diesel units in service.

Financing of the new locomotives is expected to be through leaseback arrangements, but no particulars are yet available. The new president and his financial vice-president, J. P. Rutherfurd, "have spent much time considering the most advantageous method of purchasing the new equipment."

George Alpert

Although he is a Boston lawyer by profession, the New Haven president is not without a routine acquaintance with the railroad business—on the freight side. He was made a director of the road in the first place, he says, because he represented the Boston Market Terminal Company, one of the road's largest customers. In this connection he had, for more than 25 years, day-to-day business contact with rates and tariffs, service, freight schedules and claims.

A "father" of Brandeis University, he has studied almost everything the late Supreme Court Justice wrote—particularly his investigations of, and treatises on, railroad management in general and in New England in particular—and Mr. Alpert knew Commissioner Joseph B. Eastman, who got his start in Boston.

Besides gardening and color photography, Mr. Alpert is an enthusiastic violinist and member of a chamber music group who "occasionally" get together. Favorite composers: Beethoven, Mozart and Schumann.

For the time being he will shuttle back and forth between New York and Boston, with perhaps a slight edge on time in his New York office quarters. He is delighted that a group of commuters at Westport, Conn.—largely public relations and advertising men who were most vocal about the railroad's service—have (1) already disbanded and (2) invited him to dinner.

about the situation as one of the first of this year:

"Freight car ownership on January 1 was 1,774,614. Although this is 6,409 less than reported on December 1, 1955, it included the 6,156 decrease due to reclassification, which means there was an actual loss in ownership of only 253 cars."

The serviceable fleet as of January 1 was reported on the new basis as 1,700,243 cars—2,151 less than the total for December 1, 1955. But, here again, allowance for the 6,156-car shift shows an actual increase of about 4,000 in number of cars available for use.

BAR Has Role in Food Irradiation Tests

The Bangor & Aroostook is participating in what has been called the first commercial evaluation of use of atomic-irradiated food for civilian and military markets jointly sponsored by industry and the government.

In the program, 35 tons of potatoes from Maine and Idaho are to be irradiated at the Atomic Energy Commission's testing reactor at Idaho Falls. The potatoes are to be shipped, handled and stored under normal commercial conditions both before and after irradiation. The BAR will supply 25 tons of potatoes for the program and will provide storage facilities for the irradiated potatoes at Presque Isle, Me.

The BAR also will coordinate activities of northeastern processors who will produce canned, frozen, dehydrated and treated potato items to be studied for the effects of radiation on nutrient value, wholesomeness and "keeping" quality. AMF Atomics, Inc., subsidiary of American Machine & Foundry Co., and the Army Quartermaster Corps are directing the program.

People in the News

17 Railroaders Attended AU's Traffic Institute

Seventeen railroad employees were among 117 students who completed the course of the Eighth Institute of Industrial Transportation and Traffic Management at the American University in Washington, D.C., last month.

Certificates were awarded the students at a January 27 luncheon session by the university's president, Hurst R. Anderson. The Army's chief of transportation, Major General Paul F. Yount, addressed the session on "Traffic Management in the Army."

The course included two dinner sessions at which addresses were made by Chairman Anthony F. Arpaia of the Interstate Commerce Commission, and by the commission's acting managing

RAILWAY MARKET *Outlook* THIS WEEK

New Equipment

LOCOMOTIVES

► *Diesel-Steam Gap Widens.*—Class I roads owned 1,709 more diesel-electric units December 1, 1955, than on previous December 1, the AAR reports; ownership of steam locomotives and electric units declined in same period—by 2,642 and 82, respectively; summary of report follows:

	Owned or Leased		Stored Serviceable		Waiting Repairs	
	1955	1954	1955	1954	1955	1954
Diesel (units)	24,755	23,676	18	98	950	943
Steam (locomotives)	6,186	8,828	708	2,395	1,013	1,226
Electric (units)	650	568	15	15	80	59

► *New Haven.*—Ordered 120 diesel-electric units; cost, including 20 units previously ordered *(Railway Age,* January 9, page 179), was said to be "well over" $20,000,000; 120 units will be built as follows: Electro-Motive, 90 1,750-hp units (including 60 "diesel-electric-electric" units to be equipped for operation from straight electric current by third rail in New York's Grand Central Terminal); Alco Products, 15 1,800-hp units; Fairbanks, Morse, 15 1,600-hp units; purchase-lease financing is contemplated.

► *Norfolk & Western.*—Ordered 50 general purpose diesel-electric units, estimated cost $9,300,000; Electro-Motive will build 33 1,750-hp units; Alco Products, 17 1,800-hp units; deliveries expected to start in March; new units will be used on Shenandoah district between Roanoke, Va., and Hagerstown, Md.

FREIGHT CARS

► *Car Ownership Declines.*—Class I railroads owned 38,334 fewer freight cars on December 1, 1955, than on previous December 1, the AAR reports; number of cars awaiting repairs, however, also dropped—by 44,482—between those dates; see statement by A. H. Gass, chairman, Car Service Division, AAR, on page 8 of this issue, for effect of ICC's January 1 railroad reclassification on car fleet of Class I railroads; comparative figures for December 1, 1955, and the same date a year earlier, follow:

	Dec. 1, 1955	Dec. 1, 1954	Change
Ownership	1,700,171	1,738,505	38,334 (d)
Awaiting Repairs	75,165	120,007	38,842 (d)
Per Cent Awaiting Repairs	4.4	6.9	2.5 (d)

PASSENGER CARS

► *Pennsylvania.*—Five dining cars are being equipped with completely plastic interiors, said to be first such extensive usage; one car is already in service on New York-Chicago "Gotham Limited," others will be in service by March; new decorative effects, soap-and-water cleaning, and noise reduction are some of features claimed to result from use of plastic.

SPECIAL

► *Various Types of Equipment Sought.*—Santos-Jundiai Railway of Brazil has obtained $19,625,000 loan from Export-Import

RAILWAYS IN THE MARKET—THIS WEEK

CONTINUED

bank, plus $5,375,000 in credit from U.S. manufacturers, to buy diesel-electrics, multiple-unit cars, CTC and shop equipment, and track materials, in this country.

New Facilities

► *Atlantic Coast Line.*—No site has been chosen nor date scheduled for planned removal of general offices from Wilmington, N.C., an ACL spokesman told *Railway Age* last week; relocation object is to bring management closer to road's center of mileage; Savannah, Ga., Florence, S.C., and Rocky Mount, N.C., are among prospective sites mentioned in speculation.

► *Louisville & Nashville.*—Ordered equipment from General Railway Signal Company for installation of an all-relay interlocking at Gentilly, La.

► *Virginian.*—Will spend $2,000,000 to add another dumper to No. 2 coal pier at Sewells Point Terminal, Norfolk, Va.; project will take about 18 months to complete.

Maintenance Expenditures

► *Up Almost $71 Million.*—Maintenance expenditures by Class I roads were up almost $71 million, or 2.4%, in the first 11 months of last year, compared with the same 1954 period, the ICC reports —Breakdown for maintenance of way and equipment expenditures follows:

	11 Months—1955	11 Months—1954	% Increase
Maintenance of Way & Structures	$1,265,128,074	$1,240,942,012	1.9
Maintenance of Equipment	1,634,490,442	1,587,952,160	2.9
Totals	2,899,618,516	2,828,894,172	2.4

director, Edward F. Hamm, Jr. Edward F. Lacey, former executive secretary of the National Industrial Traffic League, was director of the Institute.

Murphy and Minor Confirmed for ICC

The Senate has confirmed President Eisenhower's appointments of Rupert L. Murphy and Robert W. Minor to the Interstate Commerce Commission. Mr. Murphy, who got a recess appointment before Congress convened, is already on duty, and Mr. Minor probably will assume his duties next week.

Commissioner Murphy, formerly an industrial traffic manager of Atlanta, Ga., succeeded former Commissioner Hugh W. Cross for the remainder of a term expiring December 31, 1957 (*Railway Age*, January 2, page 12). Mr. Minor, who has been first assistant to the deputy attorney general, will be successor to former Commissioner J. Haden Alldredge for the remainder of a term expiring December 31, 1958 (*Railway Age*, January 16, page 10).

The Senate also has confirmed President Eisenhower's reappointment of Francis A. O'Neill, Jr., to the National

Robert W. Minor

Mediation Board for a new three-year term expiring February 1, 1959. Mr. O'Neill has been a member of NMB since March 1947.

President Eisenhower has asked the Senate to confirm his appointment of Thomas M. Healy as railroad management's representative on the Railroad Retirement Board. The appointment is for the remainder of a term expiring August 28, 1958. Mr. Healy has been serving on the board since last August

Rupert L. Murphy

when he received a recess appointment (Congress not being in session). He succeeded Frank M. Squire, who retired (*Railway Age*, August 29, 1955, page 9).

Law & Regulation

Shoemaker Assails Cabinet Report Critics

Lackawanna President Perry M. Shoemaker, speaking at Oswego, N.Y., January 17, assailed critics who found railroads on the brink of government ownership before introduction of the Cabinet Report but now see them as a threat to all competition.

He said that "deliberate or uninformed" misstatements were circulated a few years ago that railroads "were on their last legs," with government operation "just around the corner." Now, he told the Oswego Chamber of Commerce, comments are that the "big, rich railroads" are out to destroy their competitors. All that railroads ask, he said, is the chance to "compete with government-supported competitors on equal terms."

Penalty Per Diem Favored by NARUC

The executive committee of the National Association of Railroad and Utilities Commissioners favors legislation which would authorize the Interstate Commerce Commission to impose penalty per diem charges to expedite freight-car movements.

The committee recently adopted a resolution specifically endorsing the Senate bill (S.2770) which the ICC had introduced for that purpose (*Railway Age*, January 23, page 10).

ICC Accident Report File Won't Be Closed This Year

If the Interstate Commerce Commission decides to keep railroad accident reports confidential, it won't make its decision effective before January 1, 1957.

The commission said this in a notice giving interested parties more time (until March 31) to file written statements of their views on its proposals to revise accident reporting forms and to make the reports confidential. The notice consolidated these proposals with the other pending proceeding wherein the commission has proposed to revise its rules governing monthly reports of railroad accidents (*Railway Age*, December 12, 1955, page 8, and January 9, page 200).

The Subcommittee on Government Information of the House Committee on Government Operations became interested in the proposal to keep the reports confidential and questioned ICC Chairman Arpaia and Commissioner Clarke about it at a recent hearing. Chairman Arpaia then said no final action on the matter would be taken until there was full hearing. Accident reports by motor carriers are already kept confidential at the commission.

Butler Introduces Atomic Locomotive Bill

Senator Butler, Republican of Maryland, has carried out his previously announced plans and introduced in the Senate a bill to authorize an appropriation for the construction of an atomic-powered locomotive.

The bill is S.2893. It contemplates that the atomic locomotive would tour the country hauling an exhibit train illustrating peaceful uses for atomic energy (*Railway Age*, October 31, 1955, page 16).

Truck Trip-Leasing Ban Delayed Until July 1

The Interstate Commerce Commission has further postponed—until July 1—the effective date of its long-pending rules prohibiting trip-leasing of motor trucks and rental payments of the revenue-splitting type.

The postponement was from March 1 (*Railway Age*, November 21, 1955, page 9). Controversy over these rules has resulted in the introduction in Congress of bills proposing to end the commission's power to prohibit trip leasing. One such bill is now on the Senate calendar.

MACKIE ASSAILS DECEIT IN CABINET REPORT DISCUSSION

The technique of the demagogue has no place in American business. Political demagoguery from the outside has attempted to undermine business in the past. Coming from the inside, demagoguery jeopardizes the business community's reputation for dealing with matters fairly and factually. When successful it invites imitation. Whenever used, the first temptation is to counter in kind.

As it spreads, so does the peril to one of our most cherished freedoms—the freedom of speech. Such abuse invites destruction of the very freedom itself . . . .

Unfortunately, there are indications that this high-level study of transportation policy (the Cabinet Report) which seeks less regulation and more freedom in competitive pricing and the strengthening of our common carrier system—is to be subjected to the misrepresentation technique. I should hate to see this come into our industry. . .

Adherence to truth in informing the public on an issue is far more important than the issue itself.—*From an address by David I. Mackie, chairman, Eastern Railroad Presidents Conference, to the Economic Club of Detroit January 30.*

Rates & Fares

Roads Get Half Hike Sought For Refrigeration Charges

Railroads have been authorized by the Interstate Commerce Commission to increase their refrigeration charges by 15%. They sought a 30% increase.

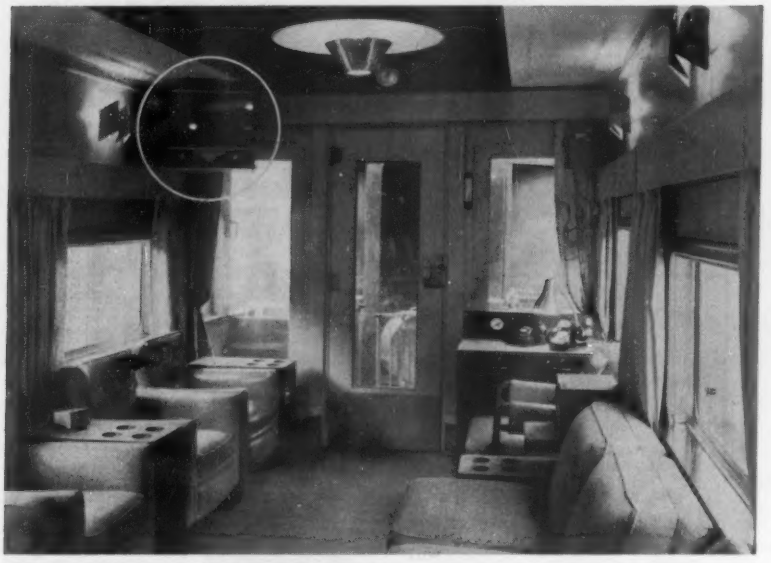
The commission conceded that the 15% increase will not raise refrigeration revenues to equal total cost of the service, but it found that the affected traffic could not bear rates on the cost-of-service basis.

The report, in Docket No. 31342, was dated January 9 and made public January 30—nearly 2½ years after the original railroad petition was filed. It estimated that the 15% increase would produce annual revenue of $6,000,000 on a volume equal to the 1951 business. Shipments transported in mechanical refrigerator cars will not get the increase, the commission having judged the evidence insufficient for a finding on that phase of the case.

Chairman Arpaia filed a separate concurring expression to record his agreement with the decision to limit the increase to 15%, but his disagreement with the majority's holding, in effect, that there is justification for requiring maintenance of a non-compensatory charge for accessorial services. It is the chairman's view that charges for accessorial service should be fully compensatory, and he said the commission has never held otherwise.

He nevertheless agreed that the increase should be limited to 15% because that was "the maximum justified on this record." The railroad evidence "falls short of justifying the full increase they have requested," the chairman said.

Other separate expressions came from Commissioner Clarke, dissenting, and Commissioner Elliott, dissenting



TV Installed in Monon Office Car

Video on the railroad has been accomplished with installation—reportedly first of its kind—of a television set in the "Lynne," office car of Monon President Warren Brown. Set, circled top left in the illustration, is connected to a rotating aerial attached to the roof of the car.

in part. The former opposed a uniform increase of 15%. He would have authorized increases "only in those instances where it has been clearly shown that charges do not cover the cost of rendering the services involved and then no more than the amount necessary to close the gap between specific charges and comparable costs."

Commissioner Elliott would have authorized an increase of "at least 20%," and he would have made it applicable to shipments transported in mechanical refrigerator cars. A notation said Commissioner Freas concurred in the result of the majority report—"except with respect to mechanical refrigeration."

Tariff Simplifiers Completing Basic Job

Results of tariff-simplification work carried on by the Railroads' Tariff Research Group were indicated last year when "substantial improvement began to show up on a wide front in large numbers of tariffs."

That's what John W. Peters, chairman of the National Industrial Traffic League's Cooperating Committee, said in a statement issued with the 1955 annual report of the railroad Administrative Committee charged with supervision of the group. The NITL committee works with this railroad committee. Chas. S. Baxter is group chairman.

Status of Program—The report noted that present plans contemplate that the group's creative work under the original program will probably be completed May 31. The railroad committee has approved continuance of the group for another two years to complete other "unfinished work" and new assignments.

The latter will include inspection of all agency tariffs for these purposes: (1) to detect all departures from specifications of tariff-improvement bulletins and advise the agent responsible in each case; (2) for study to determine in each case what should be done by the tariff maker to make the particular tariff better and more economical; (3) to determine if there are areas untouched by the original program which should be developed for bulletins.

Another of the group's new assignments will be a special study of the tariff situation covering each major commodity group, and by regional tariff peculiarities not affected by the original program.

Mr. Peters' statement also referred to the future plans. The NITL approves of them, he said, adding: "We appreciate the continuing efforts for tariff improvements and the maintenance of those improvements through systematic inspection of tariffs by the Research Group."

Responsibility—The railroad committee recalled that its 1954 report had emphasized how tariff makers must cooperate if recommendations of the group are to be made effective. "Because of their importance," these matters which "are dependent upon the stewardship of the rate people" were listed again, along with like matters which arose in 1955.

On the list were: Clarity of expression of narrative matter; adherence to recommended practice in commodity descriptions; review to eliminate obsolete matter and to improve commodity descriptions; elimination of gross ton as a unit of weight for stating rates; development of all-purpose complete routing and of routing guides; publication of rates in forms which eliminate need for computing distances; consolidation and improvement of diversion, reconsigning and stopping-in-transit tariffs; maximum use of the group plan for rate statement; integration of rate structures to avoid rules for rate alternation; discontinuance of the individual line tariff as the vehicle for line-haul rates and complete occupancy of that field by agency tariffs.

Financial

U.S. Supreme Court Won't Block MP Reorganization

The United States Supreme Court has refused to block plans for reorganization of the Missouri Pacific under its so-called "agreed" revamp plan.

The court refused to review, and thus left in effect, lower-court rulings affirming the Interstate Commerce Commission's approval of the plan. The action was interpreted as one which removed the last important legal hurdle in the way of consummating the plan.

The plan, approved by the commission in 1954, will give control of the reorganized MP to preferred stockholders of the bankrupt company, and old-company common stockholders will get one share of a new Class B stock for each 20 shares of old (*Railway Age*, August 9, 1954, page 14).

Russell L. Dearmont, attorney for the trustee, said the reorganization will probably go into effect by April 1. Guy N. Thompson, MP trustee, has requested that nominations for the reorganized road's board of directors be in his hands by February 15. It is expected Mr. Thompson will make his choices public on or about next February 27.

(Continued on page 15)

Technical Tidings

Selected from February Railway Monthlies

Productive time for on-track maintenance equipment has been increased by use of radio on the SP, and *Railway Signaling & Communications* tells how.

Can railroad shops speed and mechanize the lining of box cars undergoing repairs? *Railway Locomotives & Cars* shows the method used by one road, which has speeded the process and reduced the consumption of lining material. The question was raised and answered on the new "Problem Page."

Use of speed selection and automatic cutout in the control of highway crossing gates is explained in *Railway Signaling & Communications*. These special controls are a means for preventing delay to highway traffic when no train movement over the crossing is imminent.

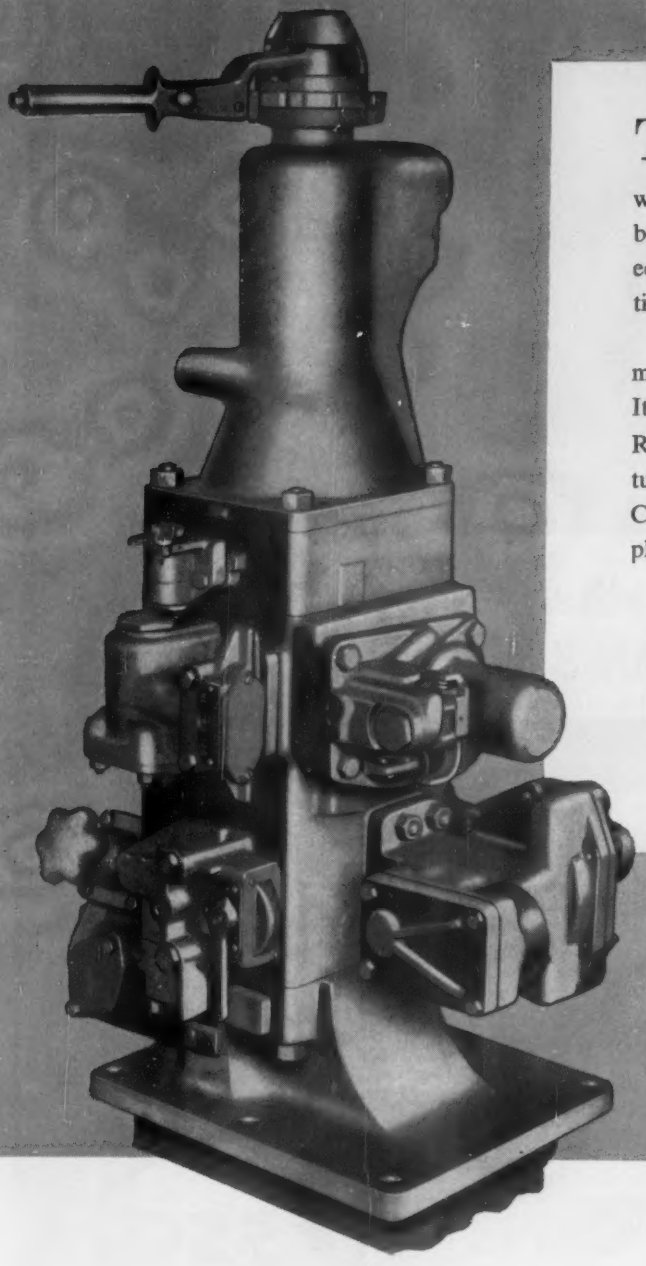
Inspection of tracks to locate defects before they can cause trouble is essential. The current *Railway Track & Structures* includes the first installment of a two-part article by Leo C. Blanchard, Milwaukee roadmaster, dealing with qualifications and training of track inspectors and the methods to be used by them.

"D-c hi-potting," a newer method of insulation testing on diesel and electric locomotives, is discussed in *Railway Locomotives & Cars*. Equipment and procedures which may lower costs and reduce failures in high-voltage traction equipment are shown, with a pro-and-con approach to this problem.

Old turntables, displaced from their original jobbs due to dieselization, are finding new careers as bridge spans. How the Missouri Pacific is making such adaptions is told in *Railway Track & Structures*.

Chesapeake & Ohio repairs its diesel power assemblies —liners, heads and pistons — on a conveyor line. The production line is adapted for various rates of output. Developed and installed at the Huntington, W. Va., shops, the arrangement is described in *Railway Locomotives & Cars*.

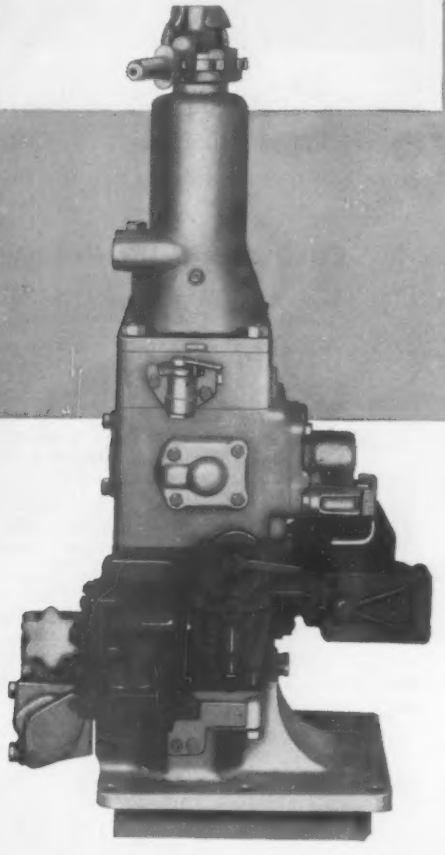
NEW DS-24-M BRAKE VALVE for 24 RL Road Locomotive Brake



THIS type brake valve incorporates the brake pipe pressure maintaining feature which offers *pronounced improvement* in train brake operation plus *outstanding maintenance* economies arising from more uniform distribution of braking throughout the train.

The D-24-M Brake Valve is the recommended standard for 24 RL Brake Equipment. Its functions can be readily incorporated in 24 RL Brake Valves now in service by substituting a conversion filling piece. Write for our Circular Notice No. 1130 which gives complete details.

Conversion Filling Piece, shown in color below, for existing D-24 Type Brake Valves. It provides all the brake pipe pressure maintaining features of the DS-24-M Brake Valve.



Westinghouse Air Brake
COMPANY
AIR BRAKE DIVISION WILMERDING, PENNA.

Esso Rust-Ban 373 gives equipment complete protection from corrosion in one fast application. More and more railroads are finding it ideal for stored parts such as axle journals and other heavy machined parts which may be stored outdoors for extended periods.

Esso RUST-BAN 373 offers four important advantages:—

1. No heating is required in applying Rust-Ban, permitting speedy application at normal temperatures by dip, spray or brush.

2. Its high resistance to abrasion means one coat lasts longer. The extremely durable coating of Rust-Ban safeguards equipment even after rough handling.

3. It dries to a hard film that is unaffected by rain and direct sunlight. And to withstand low temperatures, Rust-Ban contains special additives to prevent cracking and chipping. This all-weather protection keeps surfaces corrosion-free, saves expensive part replacements.

4. Economy is provided by excellent coverage – about 350 square feet per gallon. And Esso Rust-Ban 373 is easily removed by any good petroleum solvent such as Varsol.

Esso Rust-Bans are available in several types to meet every preservative need. *For more information*, write: Esso Standard Oil Company, Railroad Sales Division, 15 West 51st St., New York 19, N. Y.

Esso

RAILROAD PRODUCTS

Esso offers a complete line of dependable railroad products — Valuable years of experience in research and development, along with continual testing on the road and in the lab, stand back of the outstanding performance of Esso Railroad products.

(Continued from page 12)

Florida East Coast.—*"Agreed" Plan for Merger With ACL.*—The Atlantic Coast Line has filed with the Interstate Commerce Commission another proposed plan of reorganization for FEC which involves absorption of the latter by ACL. The plan was worked out by the ACL and FEC. A previous plan which contemplated a "forced merger" was struck down by the United States Supreme Court. The court held that the ICC, in approving such a plan, had exceeded its power under section 77 of the Bankruptcy Act, which provides that mergers incorporated into reorganization plans must be "voluntary."

Sacramento Northern. — *Reorganization Plan.*—The ICC has authorizedthis road, to effecuate its reorganization plan (*Railway Age*, October 3, 1955, page 15), to issue 75,000 shares of $100 par value stock to the Western Pacific in exchange for $5,213,475 of first mortgage bonds and interest, and to assume liability for the obligations of the debtor and its trustees.

Santa Fe.—*Stock Split Proposed.*—Directors have proposed a five-for-one split of the common and preferred stocks. Application will be filed with the ICC to issue five shares of $10-par stock in place of each $50-par share outstanding. Exchange would be made on August 1. The proposal will be submitted to shareholders at the annual meeting April 26.

The board also has recommended that the number of directors be raised from 15 to 17. Board members indicated they believe the Santa Fe would benefit by election of company officers as directors. Proxy statements for the annual meeting will propose three company officers for the board—C. R. Tucker, operating vice-president; J. C. Gibson, vice-president and general counsel; and E. S. Marsh, financial vice-president. One vacancy exists on the present 15-member board.

Authorization

TEXAS CITY TERMINAL.—To issue a five-year 4% installment note for $750,000 to evidence a loan in that amount, proceeds of which are to be used with other funds to pay balance of $880,317 owed on a $1,580,000 10-year note issued in 1945 (*Railway Age*, December 12, 1955, page 15).

Dividends Declared

CHESAPEAKE & OHIO.—common, 87½c, quarterly, payable March 20 to holders of record March 1; 3½% convertible preferred, 87½c, quarterly, payable May 1 to holders of record April 6.

CLEVELAND & PITTSBURGH.—7% guaranteed, 87½c, quarterly; 4% special guaranteed, 50c, quarterly; both payable March 1 to holders of record February 10.

ERIE.—$5 preferred A, $1.25, quarterly, payable March 1, June 1, September 1 and December 1, to holders of record February 10, May 11, August 10 and November 9.

GREAT NORTHERN.—62½c, quarterly, payable March 19 to holders of record February 23.

LEHIGH VALLEY.—30c, quarterly, payable February 17 to holders of record February 3.

NASHVILLE, CHATTANOOGA & ST. LOUIS.—50c, quarterly, payable March 8 to holders of record February 8.

NORFOLK & WESTERN.—75c, quarterly, payable March 9 to holders of record February 9.

PENNSYLVANIA.—25c, quarterly, payable March 12 to holders of record February 6.

READING.—4% non-cumulative 1st preferred, 50c, quarterly, payable March 8 to holders of record February 16.

SOUTHERN.—common, $1, increased quarterly, payable March 15 to holders of record February 15; extra $2, payable February 15 to holders of record February 3; 5% non-cumulative preferred, 62½c, quarterly, payable March 15, June 15 and September 14, to holders of record February 15, May 15 and August 15.

New Ticket Office Has "Intercom" Hookup

New ticket office in LaSalle Street station, Chicago, was formally opened by the New York Central December 29, 1955. It features Burroughs Ticketeer machines, a separate travel bureau and ticket make-up office, a heating-air conditioning system at counters, and a public address system with speakers in the canopy. Intercommunication speakers at each ticket seller's window connect directly with the office supervisor.

Figures of the Week

Freight Car Loadings

Loadings of revenue freight in the week ended January 28 totaled 691,850 cars, the Association of American Railroads announced February 2. This was a decrease of 7,436 cars, or 1.1%, compared with the previous week; an increase of 54,734 cars, or 8.6%, compared with the corresponding week last year; and an increase of 63,657 cars, or 10.1%, compared with the equivalent 1954 week.

Loadings of revenue freight for the week ended January 21 totaled 699,286 cars; the summary, compiled by the Car Service Division, AAR, follows:

REVENUE FREIGHT CAR LOADINGS
For the week ended Saturday, January 21

District	1956	1955	1954
Eastern	120,164	111,080	111,848
Alleghany	141,205	117,530	119,936
Pocahontas	60,442	48,882	47,474
Southern	132,103	119,141	117,786
Northwestern	74,917	74,213	65,622
Central Western	116,753	107,411	102,645
Southwestern	53,702	52,094	51,902
Total Western Districts	245,372	233,718	220,169
Total All Roads	669,286	630,351	617,213
Commodities:			
Grain and grain products	46,895	47,924	43,047
Livestock	8,823	8,498	7,474
Coal	147,552	121,869	125,696
Coke	13,990	10,240	9,774
Forest Products	44,877	40,038	36,003
Ore	19,367	13,558	15,592
Merchandise l.c.l.	58,892	59,569	60,458
Miscellaneous	358,890	328,655	319,169
January 21	699,286	630,351	617,213
January 14	710,338	639,833	619,871
January 7	611,299	597,352	624,229
December 31	574,663	529,386	477,805
December 24	672,355	561,195	480,978
Cumulative totals, 3 weeks	2,020,923	1,867,536	1,861,313

In Canada.—Carloadings for the seven-day period ended January 14 totaled 73,285 cars, compared with 62,844 cars for the previous seven-day period, according to the Dominion Bureau of Statistics.

	Revenue Cars Loaded	Total Cars Rec'd from Connections
Totals for Canada:		
January 14, 1956	73,285	32,556
January 14, 1955	70,032	29,076
Cumulative Totals:		
January 14, 1956	136,129	62,795
January 14, 1955	128,791	55,164

707 Officers Were Paid $20,000 or More in 1954

Class I railroads paid annual salaries and other compensation of more than $20,000 to 707 officers in 1954. The total paid the group was $22,226,915, and the average per officer was $32,853.

This was shown by a report (Statement No. 5527) of the Bureau of Transport Economics and Statistics of the Interstate Commerce Commission. Comparative figures in the report showed that 683 officers were in the "over $20,000" group in 1953, but their average compensation was higher —$33,381.

All but 75 of the 1954 salaries above $20,000 were less than $50,000. The largest number, 255, were in the $20,000-to-$24,999 group. In the $25,000-to-$29,999 group, there were 173, while 127 were in the $30,000-to-$39,999 group, and 69 were between $40,000 and $50,000.

New-Type Trucks Simpler to Maintain

New trucks applied to 12 EMD switchers delivered to the Illinois Terminal (one of which is shown here), are expected to be simpler to maintain than those on previous models. Delivery of the new switchers permitted IT to remove all remaining electric freight locomotives from service. The all-coil-spring truck, is fully flexible, with controlled lateral movement of 1¼ in. each way. Seperate bolster springs give increased vertical deflection for a soft ride. The new truck can be used interchangeably on existing switchers by making minor changes in piping to eliminate clearance problems with underneath-mounted equipment on underframe.

Abandonments

Authorizations

BALTIMORE & OHIO.—To abandon operation of a 6.75-mile line of its Quemahoning Branch from Garrett, Pa., to Rockwood Junction, simultaneous with abandonment of the line itself by the branch.

CHICAGO & NORTH WESTERN.—To abandon its 10.6-mile Lee County cutoff line between Nachusa, Ill., and Nelson.

MISSOURI PACIFIC.—To abandon a 9.7-mile segment of a branch line from Holly Grove, Ark., to Clarendon.

OUTER HARBOR TERMINAL.—To abandon its 0.8-mile line and operation in the outer harbor area of Los Angeles.

PENNSYLVANIA.—To abandon an 8.1-mile segment from Glen Moore, Pa., to Honey Brook, together with an interlocking plant and signals at Supee Interlocking where the Reading crosses the PRR's Holland branch.

READING.—To abandon a 1,500-ft segment of its Schuylkill & Lehigh branch at Reading to make way for highway construction.

SAN DIEGO & ARIZONA EASTERN.—To abandon operation under trackage rights over 8.3 miles of the parent Southern Pacific from El Centro, Cal., to Calexico.

TEXAS & NEW ORLEANS.—To abandon a 7.8-mile segment from a connection with its Eagle Pass branch at Quemado Junction, Texas, to Quemado.

UNION PACIFIC.—To abandon operation of the 6.5-mile Tono branch of the Oregon-Washington from Wabash, Wash., to the end of the line, simultaneous with abandonment of the branch itself by the Oregon-Washington.

Organizations

Newly elected officers of the **General Eastern Passenger Agents Association of New York** are: President, T. J. Glancy, general agent, passenger department, Rock Island; vice-president, C. C. Burns, general agent, passenger department, Milwaukee; treasurer, A. C. Burdt, eastern passenger agent, Illinois Central; secretary, T. W. Edwards, assistant general passenger agent, Seaboard Air Line; assistant secretary, E. R. Ahlborn, general eastern passenger agent, New York Central.

V. A. Van Den Elzen, traveling accountant, Chicago & North Western, and John F. Hunter, traveling auditor, Monon, have been elected chairman and secretary, respectively, of the **Railroad Joint Facility Club of Chicago.** The club, which meets monthly, seeks to bring about closer relationships among joint facility men of Chicago-area roads.

Newly elected officers of the **Association of Railroad Advertising Managers** are: President, D. B. Wallace, assistant manager, department of public relations, Canadian Pacific; vice-presidents, A. W. Robertson, advertising manager, Missouri Pacific; Carlton T. Sills, advertising and publicity manager, Denver & Rio Grande Western; and E. F. Waldrop, Jr., assistant general passenger traffic manager, Seaboard Air Line; treasurer, G. Raymond Jackson, advertising agent, Pullman Company.

BUDD COMPANY WINS ADVERTISING AWARD

The Budd Company and E. J. Brach & Sons have won the 1955 advertising competition conducted by the Association of Railroad Advertising Managers. "Golden Spike" plaques were presented to A. Lee Dixon, manager of Budd's international division, and to I. N. Ford, Brach syndicate sales manager, at the association's annual awards dinner in New York January 27. (*Railway Age, January 23, page 47.*)

Budd's entry in the competition, a series of four full-page color advertisements in national magazines, was selected as best in the traffic promotion classification. Brack took first place in the institutional classification with its "Candy Express" campaign to promote sale of children's candy in the shape of railroad locomotives and cars.

Supply Trade

A $16 million dollar expansion program for 1956 has been announced by **Air Reduction Sales Company,** division of **Air Reduction Company, Inc.** Three new producing plants, at Chicago and Alton, Ill., and Calvert City, Ky., are scheduled for completion this year. Additional producing facilities will be installed at Butler, Pa., and output will be increased at Riverton, N.J. A portion of the appropriation will be for expansion of gas producing facilities in the Southwest, and for additional distribution facilities throughout the country.

Robert B. Hornberger has been appointed Pacific Coast sales agent for the **P. & M. Company** and the **Maintenance Equipment Company,** suc-

(Continued on page 70)

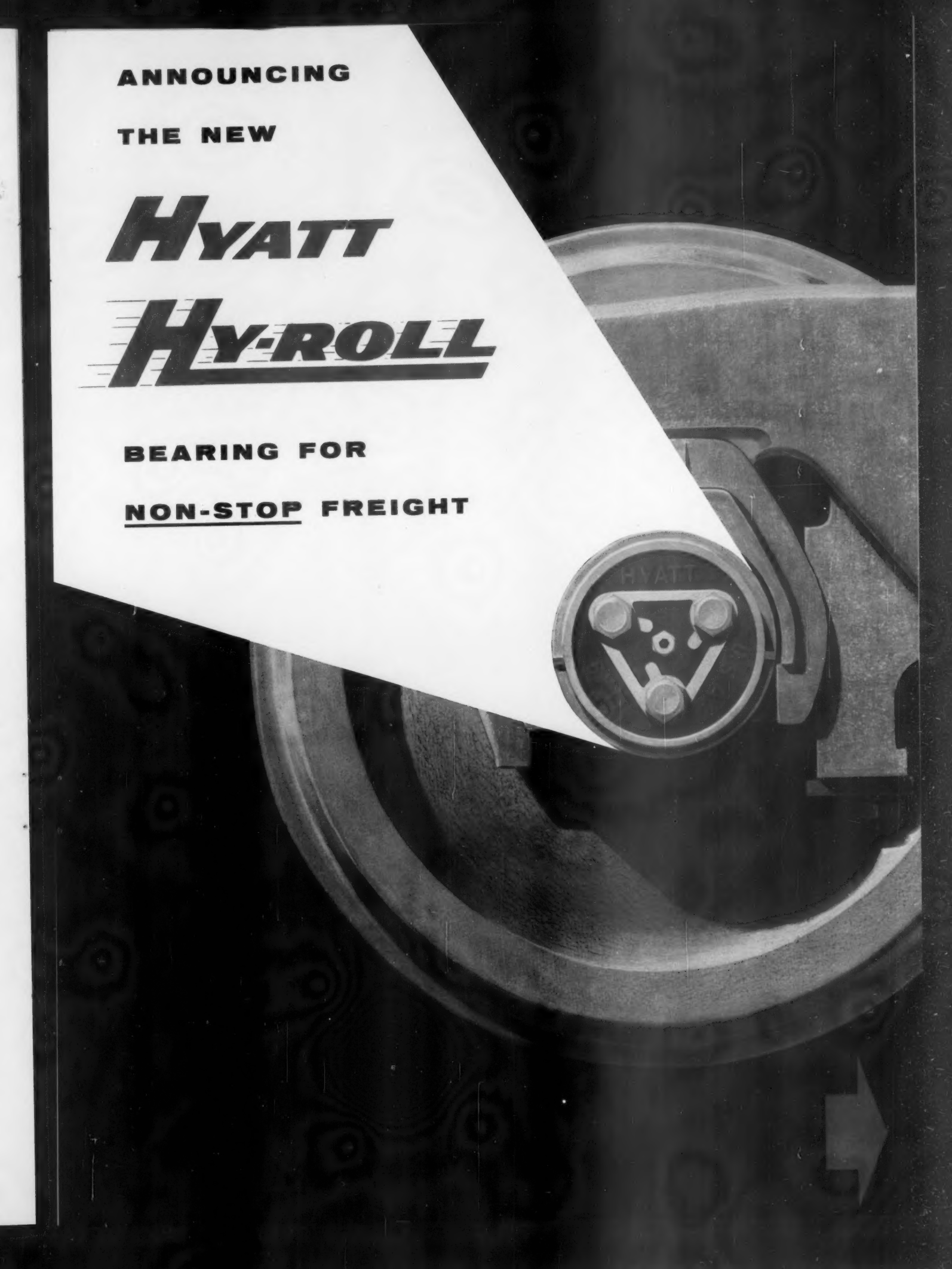
ANNOUNCING

THE NEW

HYATT HY-ROLL

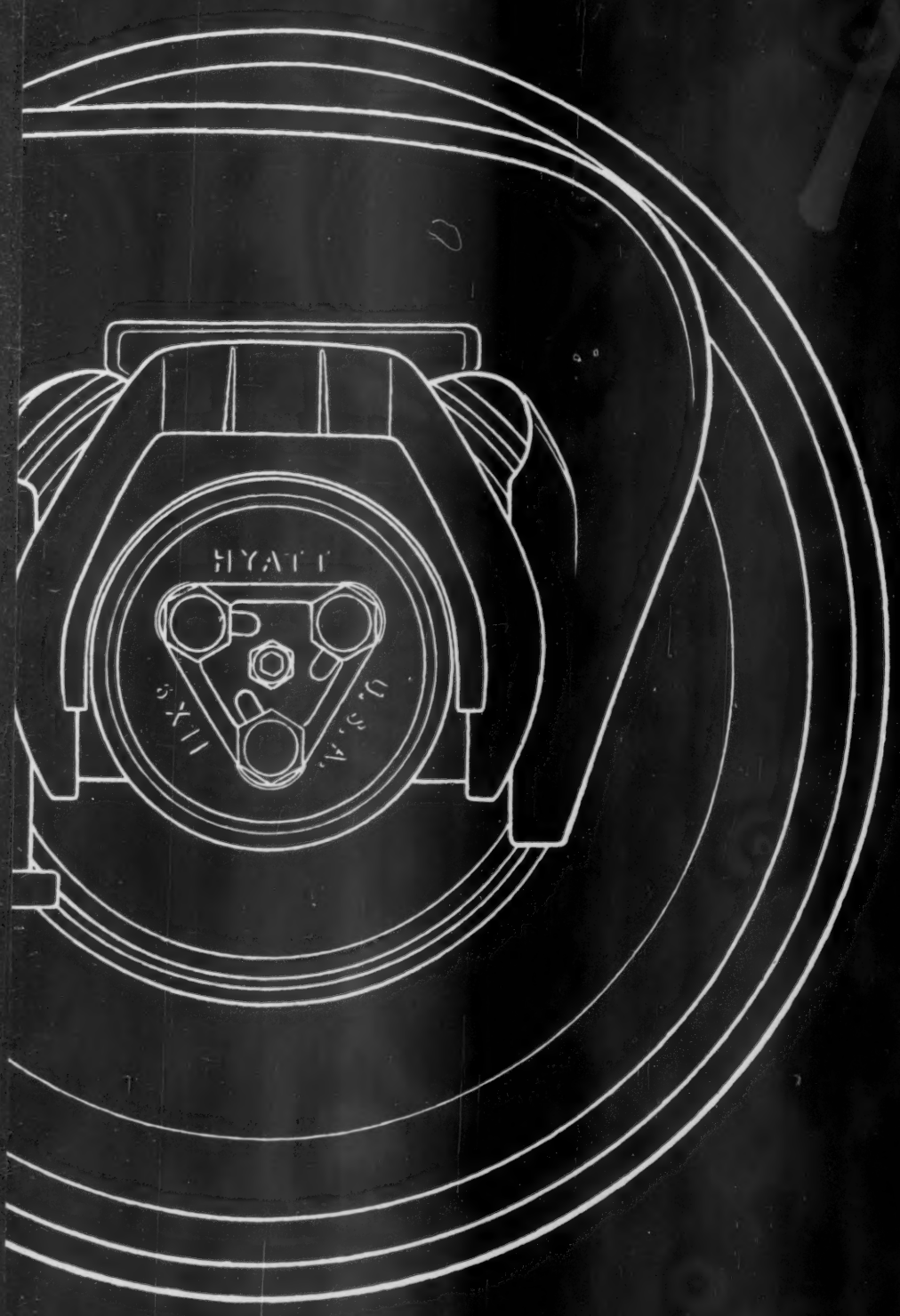
BEARING FOR

NON-STOP FREIGHT



ANOTHER GM GENERAL MOTORS CONTRIBUTION TO RAILROAD PROSPERITY

Now



so simplified,

so dependable,

so economical,

it makes the big

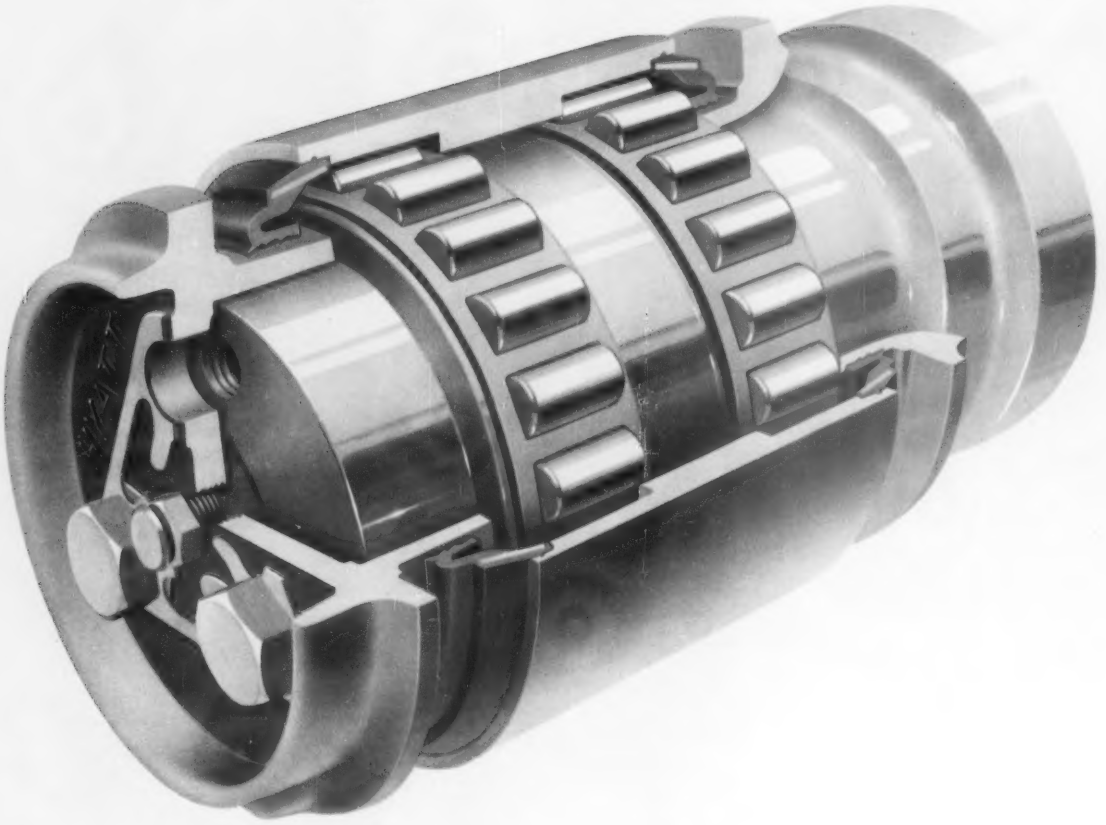
switch to roller

bearing freight

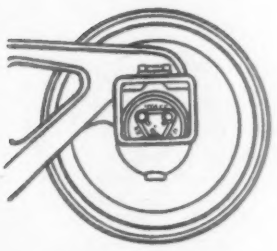
practical!

HYATT HY-ROLL

BEARING FOR NON-STOP FREIGHT



THIS ONE BOX FITS BOTH!



INTEGRAL TRUCKS

PEDESTAL TRUCKS

ANOTHER GM GENERAL MOTORS CONTRIBUTION TO RAILROAD PROSPERITY

New

so simplified,

so dependable,

so economical,

it makes the big

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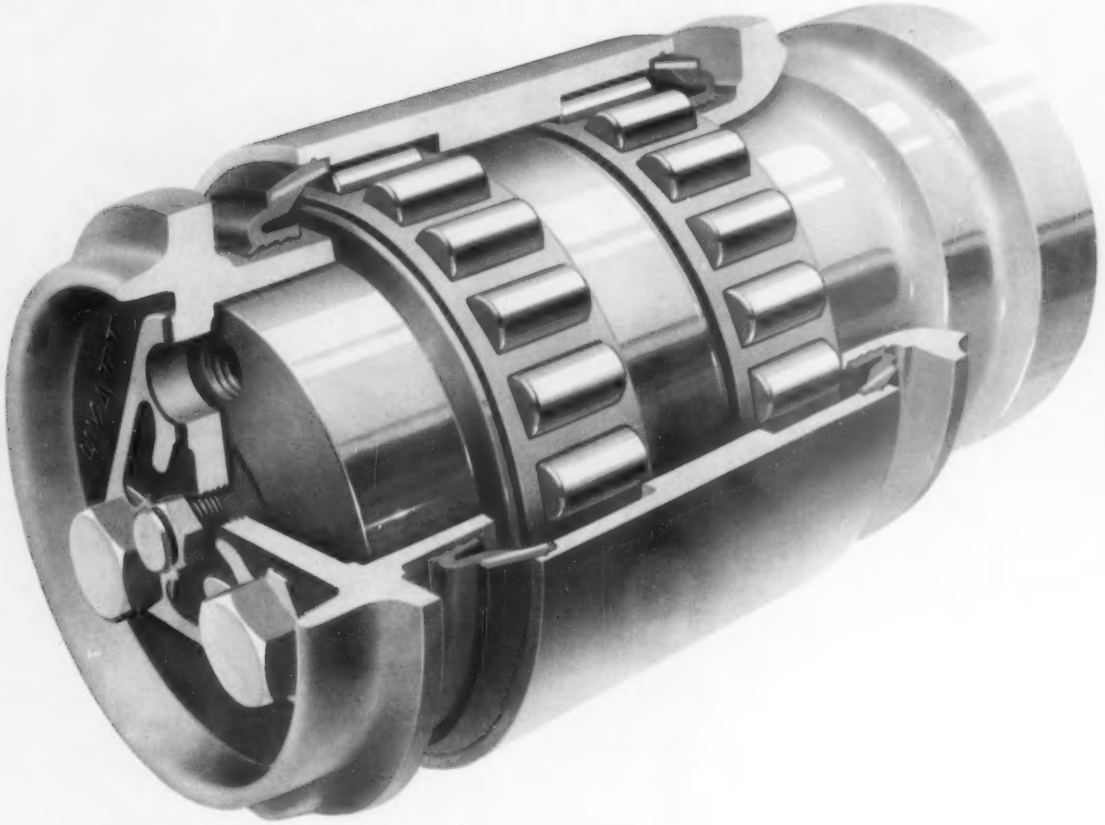
HYATT HY-ROLL

BEARING FOR NON-STOP FREIGHT



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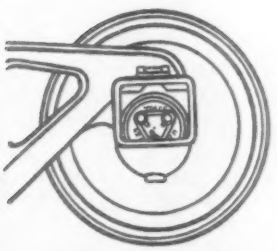
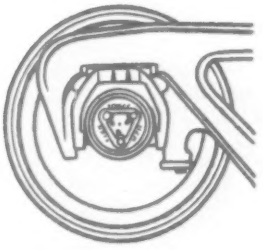


INTEGRAL TRUCKS

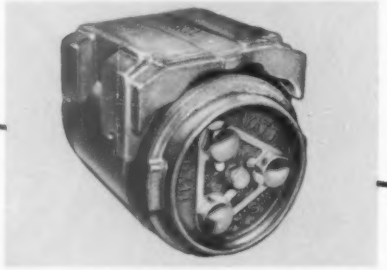


PEDESTAL TRUCKS

HYATT R

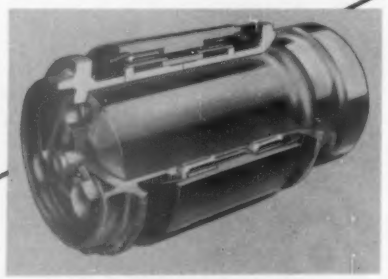
HYATT HAS BUILT OVER HALF
USED ON AMERICAN RAILROADS
IS THE END RESULT OF THAT

Box arrives completely assembled, with 3-year grease supply sealed in, ready for immediate installation on journals

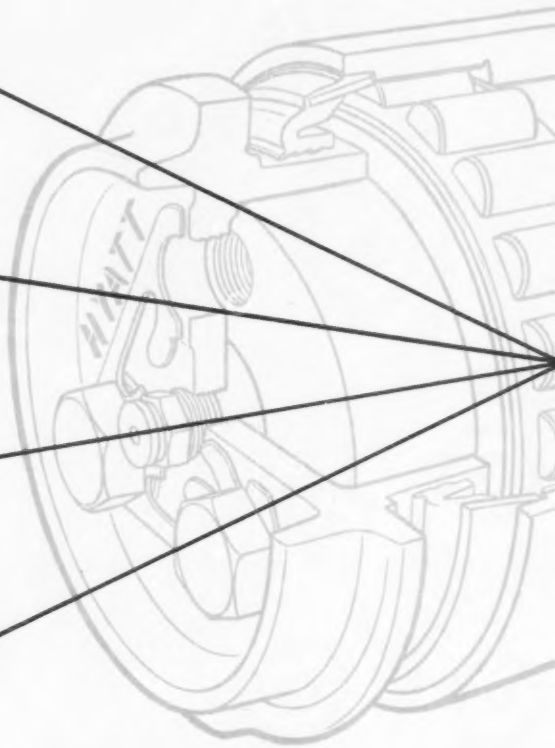


New HYATT *HY-ROLL* Roller Bearing requires only this wedge, to fit integral side frame or proposed new pedestal frame

With the addition of this rugged saddle, the same HYATT *HY-ROLL* Roller Bearing will fit wide jaw pedestal-type side frame



Simplified design assures lower installation and maintenance costs. Only 4 parts on axle; outer races completely eliminated



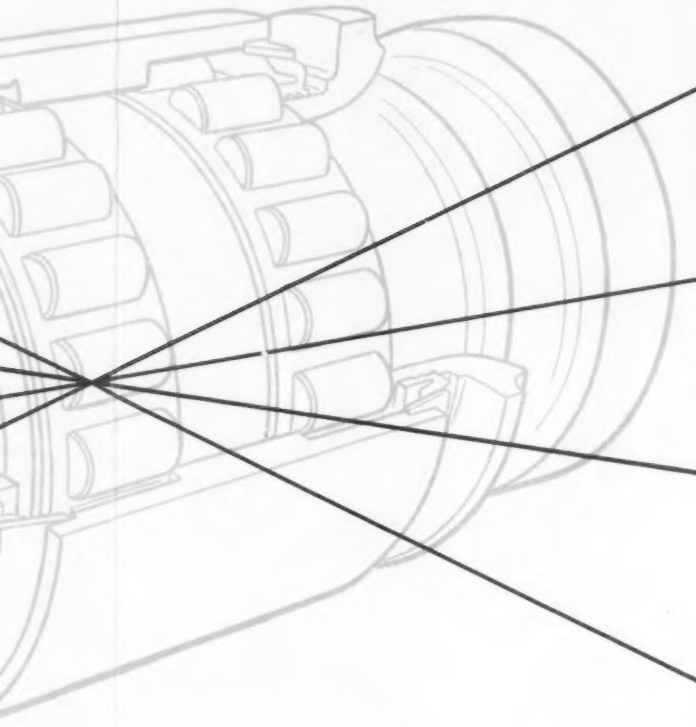
Not only has HYATT built more railroad roller bearings than anyone else—*HYATT has built over two-thirds of all those used on diesel locomotives.* These bearings must withstand the continual pounding of regularly scheduled high-speed runs—so this know-how amassed by HYATT is particularly significant.

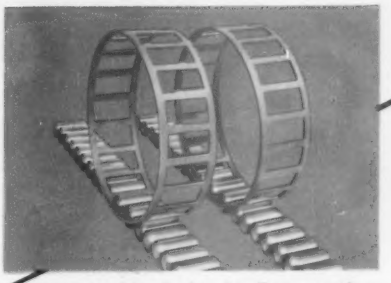
Every single one of these highly successful HYATTS has been built

HY-ROLL

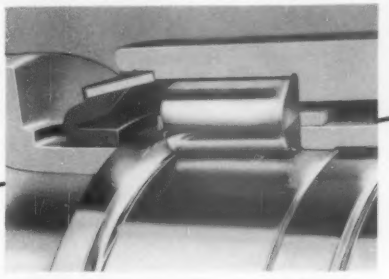
BEARINGS FOR NON-STOP FREIGHT

LF OF ALL THE ROLLER BEARINGS
OADS. THIS NEW HY-ROLL BEARING
AT UNEQUALLED EXPERIENCE

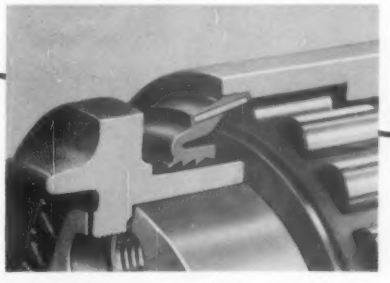




Large straight cylindrical rollers provide maximum load capacity and life; all parts interchangeable, no fitting adjustments



Lateral thrusts are easily and efficiently absorbed by generously proportioned race flanges against which rollers locate



Positive-type seals at both ends of the housing keep lubricant in, completely exclude dirt, water and foreign matter

Locking cup, bolted solidly to end of axle, retains unit and protects assembly. Clip positively prevents loosening of bolts

s than
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with high-capacity *straight cylindrical rollers*. This new HYATT *HY-ROLL* Bearing for freight cars employs *the same time-tested principle*—refined and simplified for minimum installation and maintenance costs in interchange use. Its basic features have already been proved in millions of miles of service. Check all these advantages of the HYATT *HY-ROLL*.

Both Built For THE "LONG HAUL"!

Roller Bearings on the GM "Aerotrain" were produced by the makers of the Hyatt Hy-Roll

GENERAL MOTORS designed the revolutionary high-speed, lightweight "Aerotrain" to provide *faster and smoother passenger service at far lower cost* than conventional equipment. It has HYATT Roller Bearings on every wheel.

Similarly, the new HYATT *HY-ROLL* Bearing is designed to provide *faster and smoother freight service at far lower "long haul" cost* than conventional friction bearings. Both the new train and the new bearing are products of GM's vast experience which has developed so many contributions to the "long haul" prosperity of the railroads.

ARE THE FREIGHT CARS YOU'RE BUYING TODAY GOOD ENOUGH TO MEET TOMORROW'S COMPETITION?

A freight car, unlike a highway truck, isn't worn out and replaced every few years. The fleets of freight cars being built today will still be rolling 10, 15, or 20 years from now. Be sure to equip your new cars so that they will remain competitive for years to come.

REMEMBER:

tomorrow's profits depend on foresight today— call your nearby Hyatt Sales Engineer NOW!

GM GENERAL MOTORS

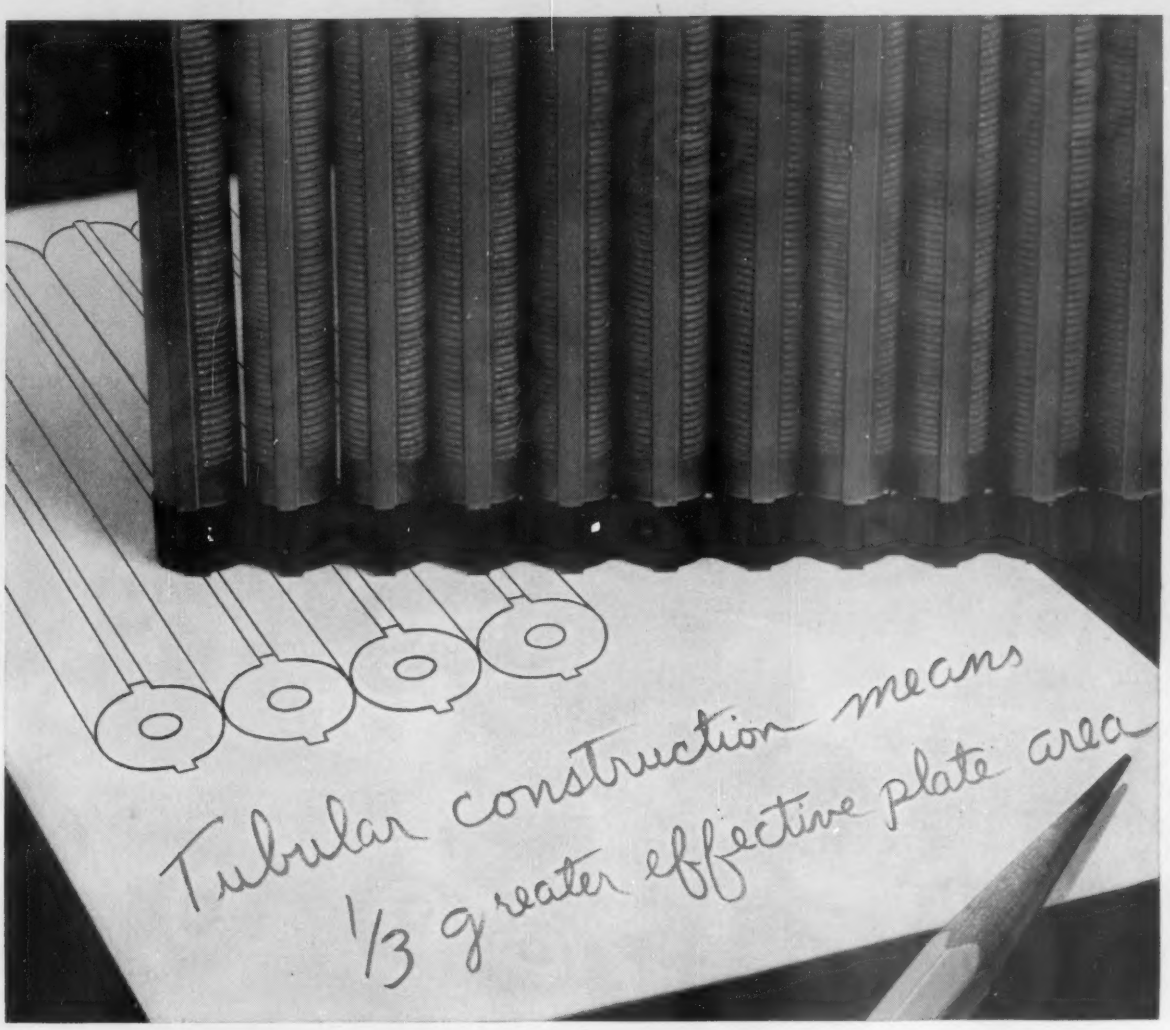
HYATT

HY-ROLL

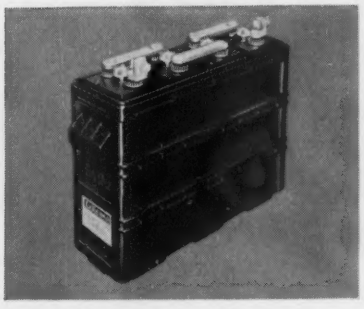
BEARING FOR NON-STOP FREIGHT

HYATT BEARINGS DIVISION • GENERAL MOTORS CORPORATION • HARRISON, NEW JERSEY

EXIDE-IRONCLAD BATTERIES



Greater effective plate area boosts power for peak loads



BATTERY FOR RAILWAY DIESEL STARTING. Model MV-D. Its tubular construction provides for extra reservoirs of electrolyte adjacent to positive plate. Battery better able to supply sudden heavy power drafts to turn over starting motors. Extra heavy connectors offer minimum resistance to heavy currents. Write for Bulletin 5348.

According to general principles of storage battery engineering, power reserve is governed by positive plate area. In the Exide-Ironclad greater effective plate area is achieved without increasing plate size. Here's how:

In the Exide-Ironclad positive plate, active material is held captive in tubes of slotted polyethylene. These tubes are arranged in a tight row with electrical connections only at the top. The actual surface of the plate is the combined semicircular sides of these tubes—the total surface area being roughly one-third more than the projected dimensions of the plate.

In use, this unique design feature means that more active material is exposed to electrolyte for a given size battery. It means the battery can provide power to spare for peak loads as well as a dependable source of continuous power.

Only Exide-Ironclad Batteries have this advantage. Be sure to specify them when you order—for either new equipment or for replacement. Exide Industrial Division, The Electric Storage Battery Company, Phila. 2, Pa.

Exide®

Now **AAR** alternate standard....

A combination of maximum

Spring-mounted guard arm plungers eliminate normal running slack and provide vertical safety interlock.
Resilient knuckle faces provide additional slack-absorption when couplers are in extreme buff position.

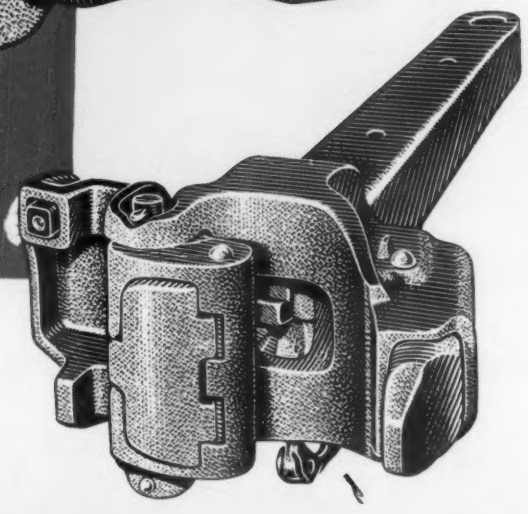
safety at minimum cost... the Controlled Slack Coupler

Fully meets all AAR test specifications

This is important news for the railroad interested in safe, smooth coupler operation...at the lowest possible costs for new passenger cars. Controlled-Slack Couplers are also an ideal application for modernizing existing cars.

Over *2 billion* car and locomotive miles of high-speed passenger train service have provided an excellent record of safety, comfort and smooth train operation.

Controlled-Slack Couplers and Slack Free Yokes can be applied to all passenger cars with standard sill spacing, without need for center sill alterations. *Here's a coupler that offers you a safe, practical way to save money.*



ASF

type E controlled-slack coupler

A contribution to railroad operating economy—through the Research and Development of

AMERICAN STEEL FOUNDRIES

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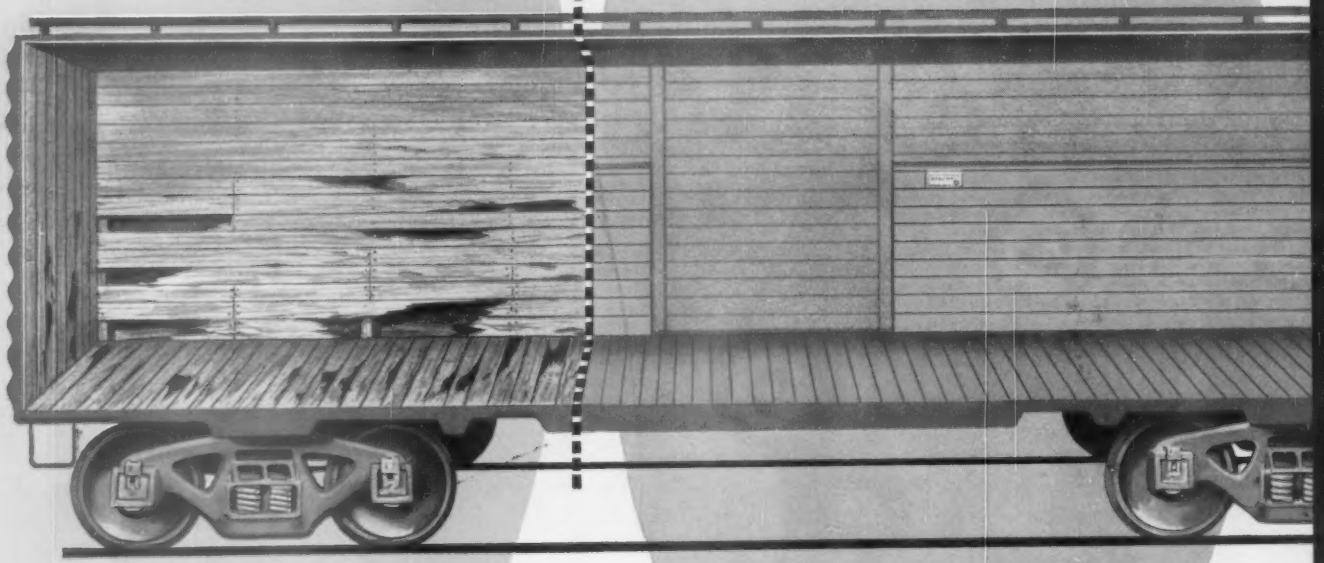
Fast, inexpensive relief

Only a one-day layover

from Class **"C"** *to Class* **"A"**



from the Car Shortage

low-cost

Espey

Carliner

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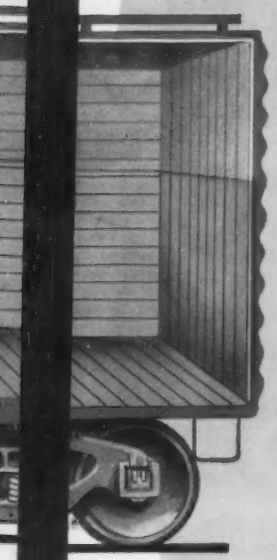
old cars

better

than new



At a cost so low it should easily come within present operating budgets, you can transform old cars into top-revenue carriers with *permanent* new Espey Carliner.

It goes on over splintered, but sound wood floors and lining—over cracks, gouges, oil spots—forms an *inseparable* lamination much stronger than wood. Seams, joints, and corners are sealed . . . warping and separation prevented.

Your shippers get what they want and need—good-looking, moisture-free, vermin-proof cars, completely safe for edible lading.

Ease of application, effectiveness in use, and increased car-earnings have all been demonstrated on *many* major roads. Espey Carliner surface-armor will serve you as nothing else can. Write for facts, today.

SPRING PACKING CORPORATION

MR. ESPEY ★ SPRING PACKING CORPORATION ★

For over 36 years

332 S. Michigan Avenue, Chicago 4, Illinois

How to CUT CLEARING COSTS

To help you clear land faster and cheaper, here are NEW IDEAS developed by clearing specialist Wade Lahar Construction Co. These "tricks" will help Lahar and their 22 International tractors finish a 23,500-acre job at Buford Dam 7 months ahead of an 18-month schedule.

One pass levels 18-inch trees—Where clearing to ground level is your primary job, Contractor Lahar recommends a big International tractor and V-shaped cutter. The cutter shown was designed and built by Herman Hackler, project manager, at Lahar's home plant in Mountain Home, Arkansas. Four 200 hp International TD-24's, so equipped, are handling most of the Buford Dam reservoir clearing near Atlanta, Georgia. In typical operation, they cut over so much land that 18 other International tractors are

Burn, turn with one tractor—On big jobs, Mr. Lahar suggests use of one medium-sized tractor to handle burning of brush piles. This leaves bigger machines free for production work. Note how clear the raked ground is behind tractor. When Lahar's job is done, some 14,000 acres will be completely cleared; about 9,400 acres partly cleared, with some trees left standing in the water to benefit future water life.

1-to-5 slopes, 1,300 acres per month—Your TD-24 will efficiently clear trees from steep grades as well as from level ground. Here's what Herman Hackler, project manager for Lahar on the $1,611,560 contract, says about this big 200 hp, 8 mph crawler: "TD-24's high-low steering range keeps cutter against the tree until it falls, even on steepest slopes. This factor, plus the "24's" great power, excellent traction, and over-all balance, is letting us crawler-cut 99% of our Buford Dam job, despite slopes averaging 1-to-5, and, in some places, 1-to-4. Our fleet of *22 International tractors*—11 TD-24's (four of them with cutters), six TD-18's, three TD-14's, and two TD-9's—clears and rakes 1,300 acres per month. This production, in our opinion, could not be exceeded by any other make of tractor!"

Team docking boosts output—Where terrain permits, three to six of Lahar's 22 IH crawlers team to rake and pile the cut brush and trees. This gives two advantages . . . (1) rakes, by catching both ends of fallen trees and brush, pick up material lying between tractors which normally would require separate pass . . . (2) one pass per team is all that's needed to provide a clean swath.

kept busy decking and burning. One pass of their 13-ft long, 14-ft wide blade slices saw-like through brush, pine, and mixed hardwoods up to 18 inches in diameter. For scattered trees up to 12 inches in diameter, a similar though smaller cutter is used on a 66 dhp International TD-14A. Both TD-24 and TD-14 have a canopy of 2 and 2½-inch pipe. This protects operator and machine. Entire canopy and cutter assembly pins to regular A-frame . . . can be quickly detached and interchanged with standard or other special blades.

Blade "saws" larger trees—If your clearing work involves trees larger than 18 inches, here's another idea from Wade Lahar Construction Co. Using same mild-steel cutter blade as on smaller trees, have TD-24 operator "see-saw" back and forth a few times to cut the trunk. Just a few seconds' work with the 64,000-lb TD-24 will topple the tree.

Careful in-the-field maintenance boosts output, too. Left, mechanic uses compressed air to blow dirt and leaves from TD-24 radiator core. Right, special steel tooth, 2½ ft long with 18-inch overhang, is welded to TD-24 blade. Four teeth and top blade extension are used per raking tractor.

Winches logs from swamp—Clearing from marshy areas may present you with quite a problem too. Wade Lahar Construction Co does this work, 1% of their 23,500-acre Corps of Engineer job, with chain saw crews and winch-equipped TD-9 and TD-18 crawlers. After winching in, tractors skid timber to central area.

International

makes every load a pay load

INTERNATIONAL HARVESTER

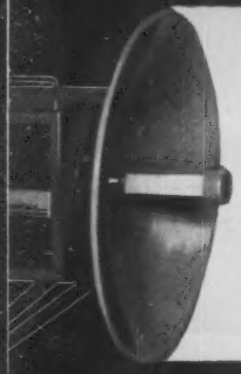
Industrial Power

A machine size for every job . . . see your nearest INTERNATIONAL INDUSTRIAL POWER DISTRIBUTOR for details.

SCRAPERS 13 yds. and 18½ yds. | CRAWLER TRACTORS 8 Models . . 40 to 200 hp | DIESEL, GAS ENGINES 18 Models, 1½ to 200 hp | WHEEL TRACTORS 6 Models . . . 9 to 59 dbp

ALSO: International Draft Loaders . . . International Scrapers, Bottom-Dump Wagons . . . International Superior Pipe-Boom Tractors . . . and International Trucks.

For Greatest Reliability over



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10 times more microwave power gives

EXCLUSIVE WITH PHILCO! Ten times more transmitter power in Philco CLR-7 Microwave systems . . . with a degree of performance and reliability never before attained in microwave equipments.

Heart of the Philco system, the "Power House" Klystron, generates a full watt of power (10,000 watts ERP) in the preferred 6000-7500 mc band.

This Philco CLR-7 Microwave power results in a received signal 10 times stronger—a higher safety margin to overcome adverse propagation conditions.

Philco CLR-7 Microwave equipment can be installed in minimum space... employs reliable, long-life tubes, a positive frequency control system and is completely compatible with existing wire line and two-way radio facilities *and with any type multiplex equipment.*

Get complete data on CLR-7 Microwave equipment. Let Philco help in the planning of your system. Philco maintains a staff of microwave specialists who are experienced system and field engineers. Call a Philco field representative or write Philco, Dept. RA, today.

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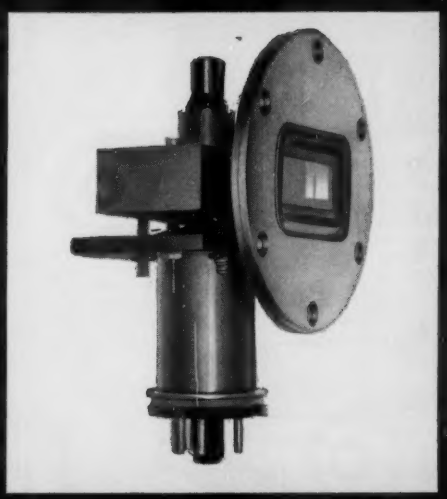
the "Long Haul"

THAT COUNTS!

you advantages like these:

- 160% greater maximum hop distance
- Fewer microwave relay stations
- 10,000 watts effective radiated power—
  50% smaller antennas
- Reduced tower installation costs
- 10 db additional signal safety margin

Philco CLR-7 Microwave repeater . . . rugged! compact! reliable! Built to provide continuous, trouble free service over short or long hauls.



Philco "Power House" Klystron provides the highest equipment power output available in the preferred 6000-7500 megacycle band.

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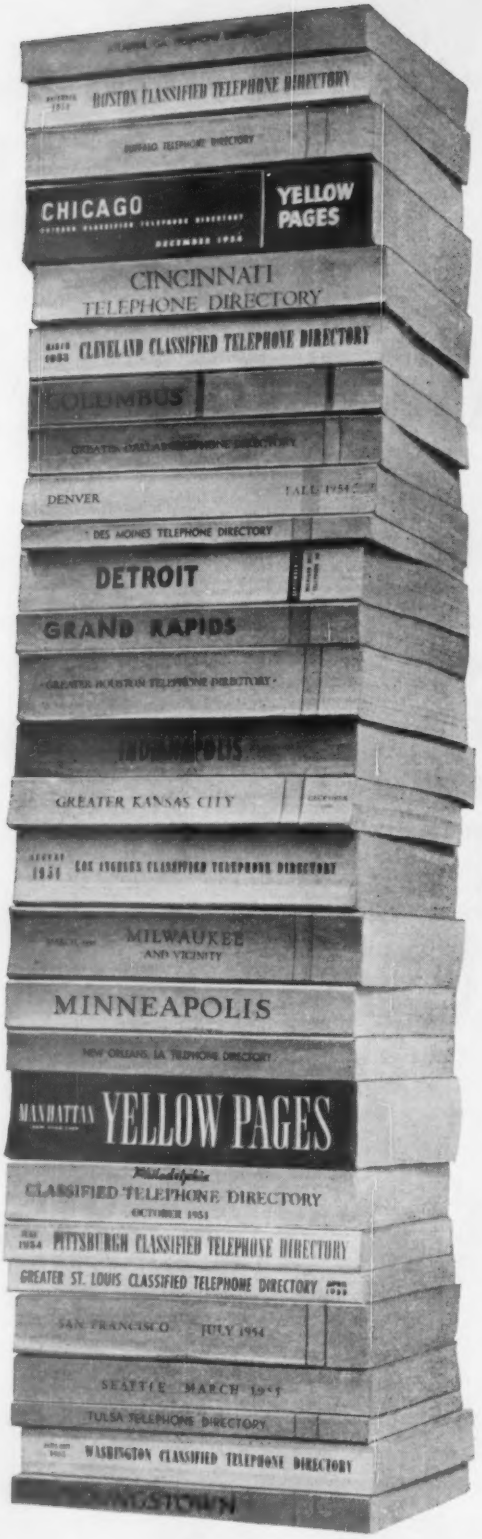
Here's where you get the answers to steel problems



● Look under "The Youngstown Sheet and Tube Company" in one of these alphabetical or classified phone books.

They represent the 28 conveniently located district sales offices Youngstown maintains across the country. Offices staffed by men who know the steel business. Men who know and understand your steel problems. Men who are qualified to help you get the specific steel you need.

When you want answers to steel problems in a hurry, just call the Youngstown office nearest to you.

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THE YOUNGSTOWN SHEET AND TUBE COMPANY *Manufacturers of Carbon, Alloy and Yoloy Steel*

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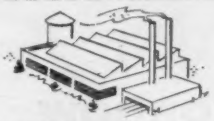
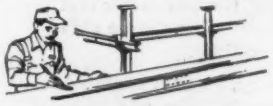


PROVED THROUGHOUT INDUSTRY FOR OVER THIRTY YEARS

Industrial leaders all over the world have used Rust-Oleum to stop and prevent rust for over thirty years. Rust-Oleum can do the same for your tanks, stacks, pipes, machinery, metal sash, wire fences, girders, etc.

RUST-OLEUM IS EXCLUSIVE

Rust-Oleum uses a specially-processed fish oil vehicle that penetrates rust to bare metal, dries right, and is free from objectionable odor. Accept no substitutes. Buy—and specify Rust-Oleum. You'll be happy that you did. There is only one Rust-Oleum—it is distinctive as your own fingerprint.



APPLY DIRECTLY OVER RUSTED SURFACES

Just scrape and wirebrush to remove rust scale and loose rust—then brush Rust-Oleum 769 Damp-Proof Red Primer right over the remaining rust, usually eliminating costly surface preparations. Then—follow-up with your desired Rust-Oleum finish color.

MANY COLORS, INCLUDING ALUMINUM AND WHITE

You beautify as you protect, because Rust-Oleum finish coatings are available in practically all colors, including aluminum and white. They use the same basic rust-inhibiting vehicle as Rust-Oleum 769 Damp-Proof Red Primer and so provide double protection.

GREATER COVERAGE—EASY TO USE

Rust-Oleum is so easy to apply by brush or spray that one man can often do the work of two. Because of Rust-Oleum's easy-flowing qualities, an average of 30% more coverage is usually received—depending upon the type and porosity of the surface.

PRACTICAL ANSWER TO YOUR RUST-PRODUCING CONDITIONS

Rust-Oleum dries to a firm, decorative finish that resists salt water, heat, fumes, sun, steam, humidity, and weathering. Whatever your rust problem—you'll find Rust-Oleum the modern, practical way to stop rust.

Facts

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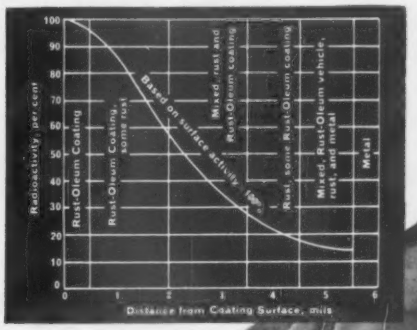
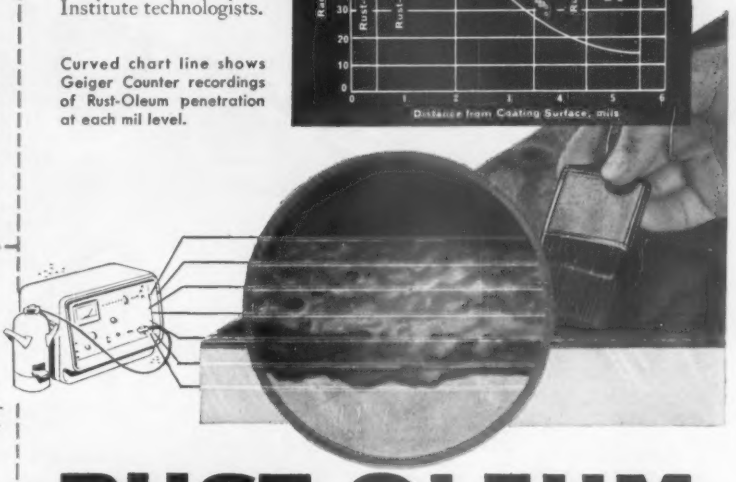
RUST-OLEUM®

Geiger Counter traces Rust-Oleum penetration through rust to bare metal. The results of radioactive research prove that Rust-Oleum penetrates rust to bare metal. Rust-Oleum's *specially-processed* fish oil vehicle was radioactivated and formulated into Rust-Oleum 769 Damp-Proof Red Primer—then applied to rusted test panels. Geiger Counters then traced Rust-Oleum's *specially-processed* fish oil vehicle through the rust to bare metal. This penetration enables Rust-Oleum to be applied directly over sound rusted surfaces—usually eliminating costly surface preparations. Attach coupon to your business letterhead for your thirty-page report, "The Development of a Method To Determine The Degree of Penetration of a Rust-Oleum Fish-Oil-Based Coating Into Rust On Steel Specimens," prepared by Battelle Memorial Institute technologists.



Curved chart line shows Geiger Counter recordings of Rust-Oleum penetration at each mil level.



RUST-OLEUM®

STOPS RUST!

Your Rust-Oleum Railroad Rust Prevention Specialist will be happy to give you complete details.

ATTACH TO YOUR LETTERHEAD—MAIL TODAY!

Rust-Oleum Corporation
2595 Oakton St.,
Evanston, Illinois

- ☐ Complete literature with color charts.
- ☐ Thirty-page report on Rust-Oleum penetration.
- ☐ Nearest source of supply.

TODAY AND TOMORROW

-The Envy of the World

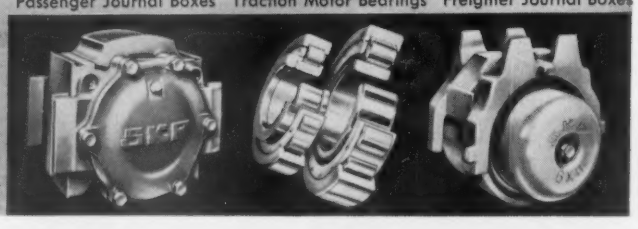
America's Railroads are the envy of the world. In no other country are so many passengers and so much freight, moved as quickly, safely, economically... as in the U.S.A. One million tons of freight move a mile every minute, twenty-four hours a day – at an average cost of 1½¢ for each ton moved per mile.

This amazing performance is largely due to *continuing* technical improvements carried on by railroads. This technical improvement will continue to keep American Railroads in the forefront next year – next century.

Working together with railroad operating and mechanical officers, SKF is playing an important part in constantly improving rail movement... making U.S.A. railroads "the envy of the world." SKF axle journal bearings for passenger cars, freight cars, and locomotives, and SKF traction motor and generator bearings are some of the reasons railroads are able to bring you such splendid service for so little.

To Railroads, as with American Industry, SKF 's engineering service, experience and production facilities will keep SKF the symbol of *better bearings for Industry.* 7670

Passenger Journal Boxes Traction Motor Bearings Freighter Journal Boxes



SKF®

BALL AND ROLLER BEARINGS

SKF INDUSTRIES, INC., PHILADELPHIA 32, PA.,
manufacturers of SKF *and* HESS-BRIGHT® *bearings.*

© 1955 SKF Industries, Inc.

THE NO. 12...

WORKHORSE OF THE OFF-TRACK FLEET ...RESTORES BANK FOR THE SANTA FE

When the Santa Fe had important miles of bank to restore between Fresno and Hanford, Calif., it naturally assigned a big, versatile CAT* No. 12 Motor Grader to the job.

For railroads through the years have continually benefited from the all-around efficiency of this big Caterpillar unit—ready to tackle *and finish* almost any off-track job.

Besides shaping embankment, it is used for eliminating irregular fill, controlling brush, policing the yard, sloping fills, taking up track, pulling ties, and clearing snow.

In addition to traditional Caterpillar ruggedness and freedom from down time, the No. 12 now has two important new features for even higher production at lower cost on *your* operation:

NEW TUBELESS TIRES. Available at no extra cost, they eliminate an estimated 80% of down time caused by tires. Tubeless tires are easier and quicker to mount, hold air longer, run cooler, and give better puncture and blowout protection.

MONEY-SAVING OIL CLUTCH. Special cork facings are bathed in oil for cooler operation, less fade, longer life. Facings wear an average of only 2½ thousandths of an inch per 1000 hours of operation, can give you up to 1500 hours without clutch adjustment.

Your operators will like the new simplified starting from the operator's seat and the fact he can change speeds without changing throttle setting by using accelerator-decelerator pedals.

Your nearby Caterpillar Dealer will demonstrate these versatile, profit-making units on any job of your choosing. Call him soon. See for yourself how the new No. 12 will give you even greater production at lower cost.

Caterpillar Tractor Co., Peoria, Illinois, U. S. A.

CATERPILLAR*

*Caterpillar and Cat are Registered Trademarks of Caterpillar Tractor Co.

99% OF ALL CAT MOTOR GRADERS EVER BUILT ARE STILL IN USE

TM

...the *Demands*

of heavy freight service

Here are some of the basic demands made by
the railroad industry on the new Train Master—
"higher horsepower . . . more pulling power . . . higher dynamic
brake capacity . . . and more effective operation
in slow speed zones."

...*Answered* on the Lackawanna

Lackawanna Railroad

In this service on The Lackawanna, two-unit Train Masters provide that demanded power and handle the same work load as any other *three-unit* freight locomotive—but there are only two units to maintain. Their 30% greater transmission capacity provides an extra reserve when needed to handle heavier trains. TM power has the flexibility to change from heavy freight to suburban, or any other service when needed.

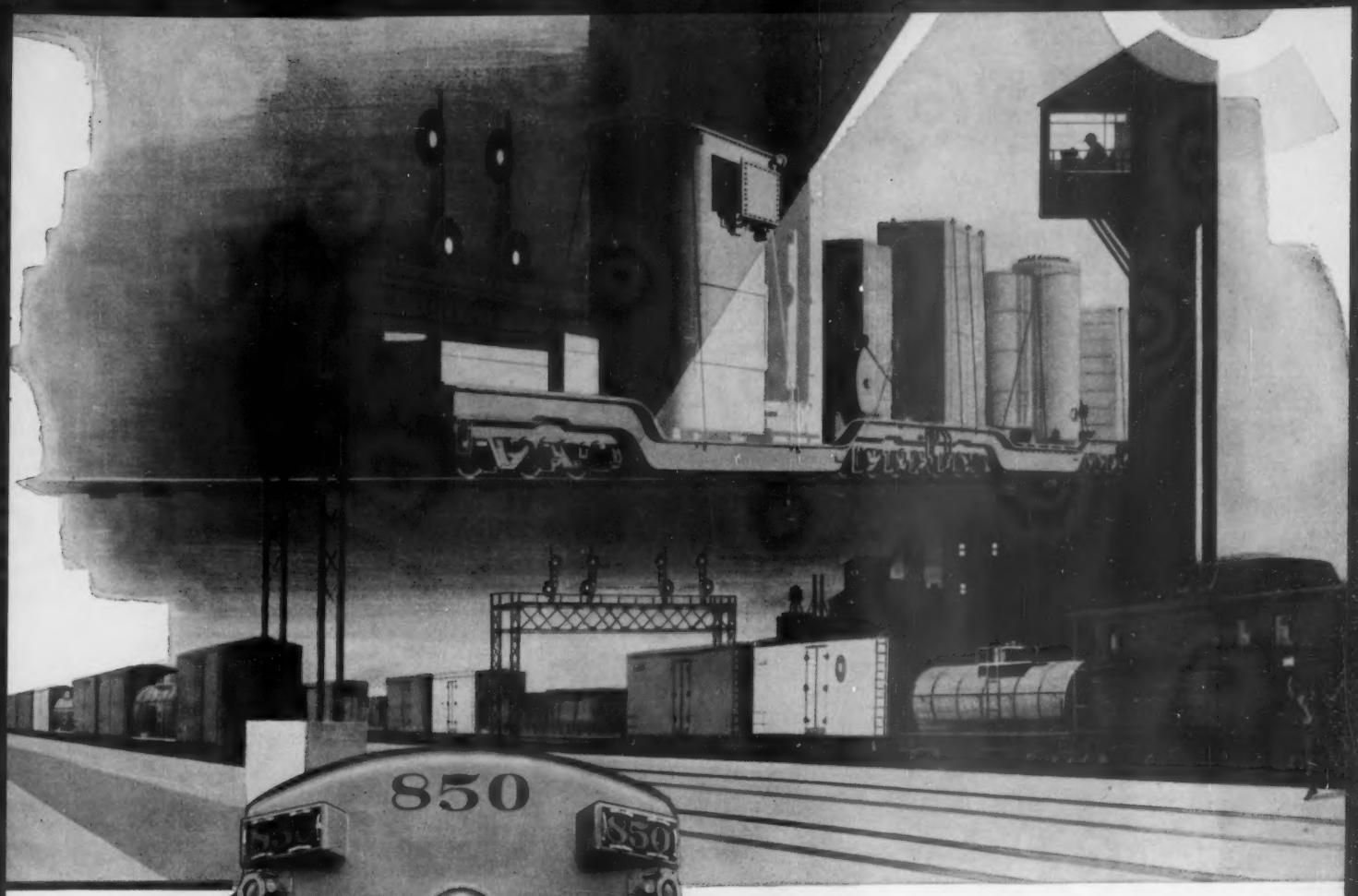
On descending grades, TM dynamic brake capacity—most powerful on The Lackawanna by 33%—speeds controlled descents, helps move traffic faster in both directions.

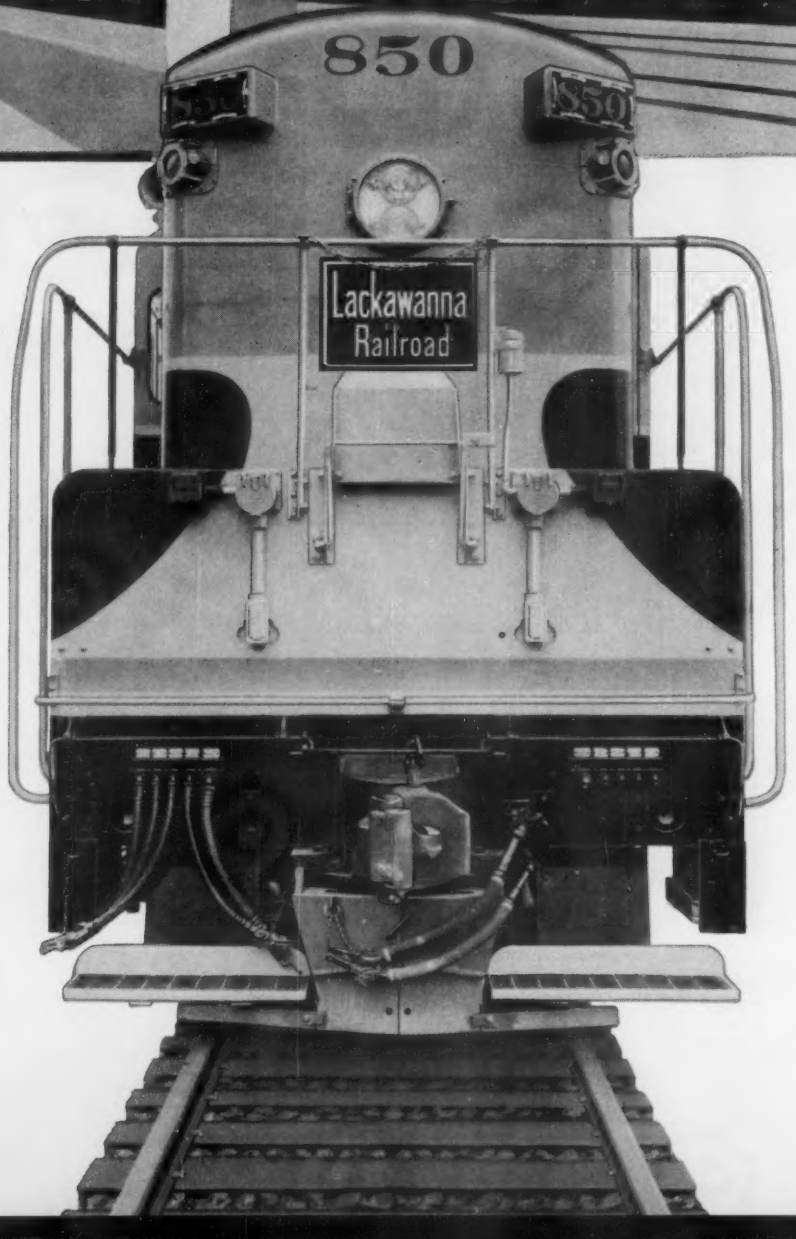
On The Lackawanna and other major roads across the country, TM power and versatility have proved to be the right combination to answer the basic demands for a more useful locomotive—for all motive power services.

FAIRBANKS-MORSE

a name worth remembering when you want the BEST

DIESEL LOCOMOTIVES AND ENGINES • RAIL CARS AND RAILROAD EQUIPMENT • ELECTRICAL MACHINERY • PUMPS • SCALES • WATER SERVICE EQUIPMENT • MAGNETOS





TRAIN MASTER

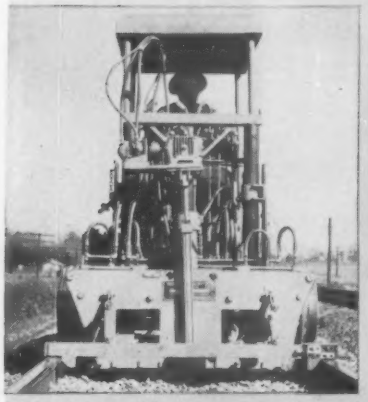
...the most useful locomotive ever built

THE RECORDS PROVE IT!

If you would like a copy of the TM booklet that shows all the advantages of this proved locomotive, write: Fairbanks, Morse & Co., Chicago 5, Illinois.

A *New*

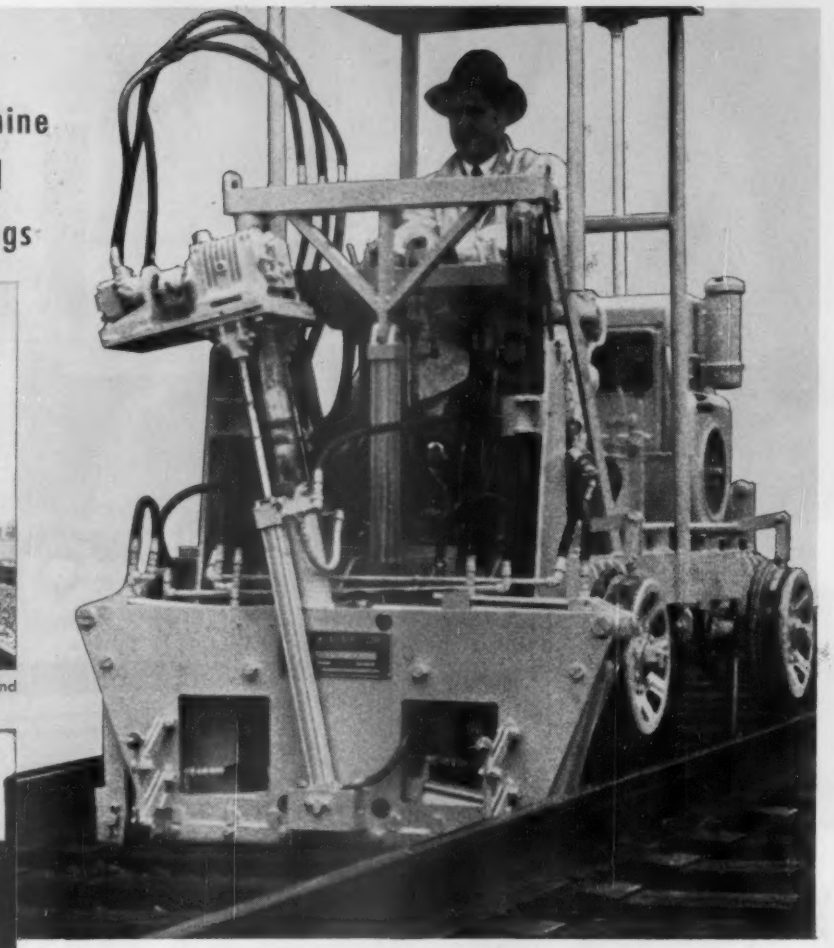
Track Lining Machine for Mechanized Maintenance Gangs



Lining tangent with target on machine and without retracting wheels.

Left wheels retracted to give man doing sighting clear view of the rail.

CRAWLER-MOUNTED LINEMASTER, which operates between the rails, also is available.



R·M·C·

WHEEL-MOUNTED

LINE *Master*

LineMaster will line from 1,000 to 2,000 feet of track per hour, with one operator and one man for sighting.

With lining head of machine anchored to the roadbed by a power-driven spud inserted in the crib, hydraulic cylinders under precise control of the operator move track in either direction. LineMaster, either wheel or crawler type, is equipped with hydraulic lifting ram for turning or setting off machines.

Railway Maintenance Corporation

BOX 1888, PITTSBURGH 30, PA.

Designers and manufacturers of: McWilliams Mole, Super Mole . . . McWilliams Tie Tamper, Crib Cleaner, Ballast Distributor . . . TieMaster . . . LineMaster . . . SpikeMaster

service record of a ten year veteran

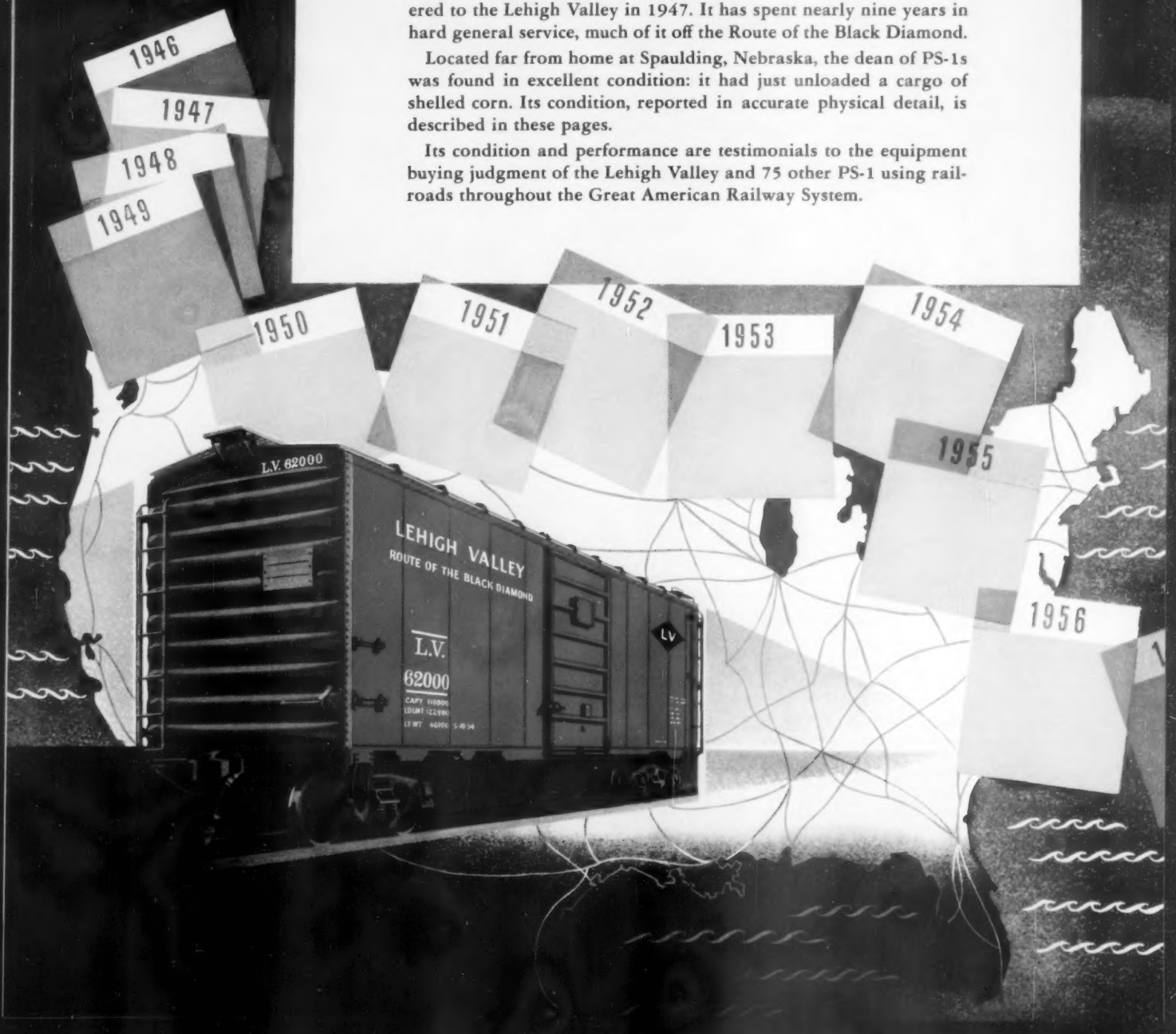
the Lehigh Valley bought the first PS-1 Standardized Box Car 10 years ago

With 1956 marking the Tenth Anniversary of the introduction of Standardization to the railroad industry, Pullman-Standard was certain that railroad personnel would be interested in a factual account of the performance and condition of the first of the standardized box cars.

The Grandfather of all Standardized Freight Cars—more than 100,000 of all types—was recently found hard at work. It was Lehigh Valley Box Car, LV-62000, the very first Standardized PS-1 Box Car ever built by Pullman-Standard. Ordered ten years ago, in 1946, the year Standardized Box Cars were introduced, LV-62000 was delivered to the Lehigh Valley in 1947. It has spent nearly nine years in hard general service, much of it off the Route of the Black Diamond.

Located far from home at Spaulding, Nebraska, the dean of PS-1s was found in excellent condition: it had just unloaded a cargo of shelled corn. Its condition, reported in accurate physical detail, is described in these pages.

Its condition and performance are testimonials to the equipment buying judgment of the Lehigh Valley and 75 other PS-1 using railroads throughout the Great American Railway System.



the LEHIGH VALLEY...

This is how the first PS-1 looked when delivered. Below is how it looks today.

1.

2.

3.

4.

5.

6.

1. LV-62000 was built with a Pullman-Standard welded roof. This roof was found to be in excellent condition, watertight, and without fractures in either the welding or the parent metal. The car cement was worn off about 90% of the roof surface, allowing mild corrosion. However, no measurable loss of metal had occurred. Anticondensation coating on the roof underside was in good condition, adhering well to roof sheets.

2. THE FIRST PS-1 was found to have sides in excellent condition except where the original paint was missing in spots, allowing mild corrosion. Original paint was generally good, stencilling quite legible. Side sheets were sound and strong. Side sill, side plate, side posts and side sill reinforcement were all straight. There were no weld fractures at sills, side sheets at posts, side sills and side plates. With nearly a decade of hard service, the condition of LV-62000 is convincing evidence of the strength and performance of the PS-1 Side.

3. DOOR OPENINGS were square, with door posts straight. All welding was intact with no fractures in either side sills or side sill reinforcements. The 7-foot Superior doors were in relatively good condition. The lift handle on the left door was missing and there was slight bowing in the two door sections.

4. FLOORING (1¾") and lining (⅝"), were found to be in good condition. Flooring was worn and rough. But no floor boards were broken or showed signs of having been replaced. The flooring appeared to be the original installation, and was supported by two stringers on each side of sill. Later PS-1s use three stringers. No patching or replacement of end lining boards was distinguishable. Side lining was worn, and had been patched in a number of locations.

5. THE UNDERFRAME of LV-62000 was found in good condition except for minor fractures of center filler web plates and center sill seam weld at bolsters. Side bearing clearances were ample at all four locations. At the time this car was built, AAR requirements of 30% center sill seam weld penetration were met. PS-1 specifications were subsequently changed, in 1950, to 100% penetration. 2000 PS-1 inspections since that time have revealed no underframe fractures such as found on LV-62000. This is an excellent example of how PS-1s are continually being improved although basic designs are standardized. (Pictured: Car cement scraped off for close inspection.)

6. THE ENDS of the first PS-1 were in excellent condition. The "B" end was bowed about 1¾" and the "A" end about 2⅞," both in the lower section. End posts were not distorted, and ends could be easily realigned with an end straightener. Nearly a decade of hard general service by this car proves the strength and worth of the PS-1 end.

The present day excellent condition of LV-62000, the first PS-1, proves the value of standardization. Individual components have withstood weather, time and hard service. And since the segments work together in mutual support, the whole car is capable of top performance. This is the key to standardization: Properly designed, engineered, tested components integrated to provide a freight car capable of maximum strength, performance, dependability and economy.

number one investor in STANDARDIZATION

LEHIGH VALLEY PS-1 No. 62000
performance log of a typical year — 1954

ROAD FROM	ROAD TO	DATE
Chesapeake & Ohio	Lehigh Valley	1/1
Lehigh Valley	Genesee & Wyoming	1/4
Genesee & Wyoming	Lehigh Valley	1/5
Lehigh Valley	New York Central	1/6
New York Central	Niagara Junction	1/6
Niagara Junction	New York Central	1/8
New York Central	Lehigh Valley	1/9
Lehigh Valley	Genesee & Wyoming	1/12
Genesee & Wyoming	Lehigh Valley	1/14
Lehigh Valley	New York, Ontario & Western	1/16
New York, Ontario & Western	New York, New Haven & Hartford	1/17
New York, New Haven & Hartford	Boston & Maine	1/22
Boston & Maine	Delaware & Hudson	1/30
Delaware & Hudson	Lehigh Valley	2/1
Lehigh Valley	Genesee & Wyoming	2/10
Genesee & Wyoming	Lehigh Valley	2/11
Lehigh Valley	Delaware & Hudson	2/12
Delaware & Hudson	Boston & Maine	2/13
Boston & Maine	Delaware & Hudson	2/19
Delaware & Hudson	Lehigh Valley	2/22
Lehigh Valley	Genesee & Wyoming	3/3
Genesee & Wyoming	Lehigh Valley	3/5
Lehigh Valley	New York Central	3/6
New York Central	Niagara Junction	3/6
Niagara Junction	New York Central	3/12
New York Central	Indiana Harbor Belt	3/15
Indiana Harbor Belt	Chicago, Milwaukee, St. Paul & Pacific	3/15
Chicago, Milwaukee, St. Paul & Pacific	Union Pacific	3/17
Union Pacific	Southern Pacific	4/9
Southern Pacific	Western Pacific	4/13
Western Pacific	Southern Pacific	4/15
Southern Pacific	Spokane, Portland & Seattle	4/19
Spokane, Portland & Seattle	Union Pacific	4/20
Union Pacific	Spokane, Portland & Seattle	5/1
Spokane, Portland & Seattle	Great Northern	5/1
Great Northern	Western Pacific	5/2
Western Pacific	Atchison, Topeka & Santa Fe	5/3
Atchison, Topeka & Santa Fe	Belt Railway of Chicago	5/21
Belt Railway of Chicago	Chicago, South Shore & South Bend	5/21
Chicago, South Shore & South Bend	New York Central	5/22
New York Central	Lehigh Valley	5/31
Lehigh Valley	Buffalo Creek	6/9
Buffalo Creek	Lehigh Valley	6/10
Lehigh Valley	New York, New Haven & Hartford	6/20
New York, New Haven & Hartford	Boston & Maine	6/21
Boston & Maine	Delaware & Hudson	7/9
Delaware & Hudson	Erie	7/9
Erie	New York Central	7/10
New York Central	Niagara Junction	7/24
Niagara Junction	New York Central	7/30
New York Central	Chicago River & Indiana	8/1
Chicago River & Indiana	Chicago Burlington & Quincy	8/5
Chicago Burlington & Quincy	Chicago, Minneapolis, St. Paul & Pacific	8/30
Chicago, Minneapolis, St. Paul & Pacific	Indiana Harbor Belt	9/24
Indiana Harbor Belt	Chesapeake & Ohio	9/25
Chesapeake & Ohio	Lehigh Valley	9/27
Lehigh Valley	Pennsylvania Railroad	10/25
Pennsylvania Railroad	Lehigh Valley	10/27
Lehigh Valley	Buffalo Creek	11/24
Buffalo Creek	Lehigh Valley	11/26
Lehigh Valley	Wabash	12/21
Wabash	Union Pacific	12/23

LEHIGH VALLEY box car LV-62000 was the first PS-1 Standardized Box Car to be ordered. Its history, therefore, from ordering to the present time covers the years 1946 to 1956. The Lehigh Valley took delivery in 1947, so its actual service extends through about nine years.

The log at the left covers only 1954, but is typical of a year's service by LV-62000. During that year, as in the others, the car spent much time in interchange, and was off the Lehigh Valley for 238 days. This compares with 298 days in 1949, 365 days in 1950, 361 days in 1951, 302 days in 1953. Year-by-year, LV-62000 covered the country from top to bottom, coast to coast, and was subjected to all the hard demands of weather and operating conditions on the Great American Railway System.

It was obvious to Pullman-Standard years ago that for the railroads to maintain their position as leader in American transportation, they would need rolling stock that helped them outdistance competition. Such rolling stock would have to break tradition with customization and be standardized. Through standardization freight cars could receive all the advantages of mass production techniques, costly jigs and fixtures for precision fabrication, advanced building methods such as special welding, laboratory testing, and field surveillance. In addition, continuous study by freight car engineers would allow improvements in the flexible standardized designs, in keeping with changing railroad requirements. And standardization would bring important savings in first cost and reduced maintenance—prime considerations to cost-conscious railroads.

The box car was chosen as the first freight car to be standardized. Pullman-Standard's entire organization drew on its skills, experience and facilities to create the standardized box car . . . designated as the PS-1.

The forward-thinking Lehigh Valley, The Route of the Black Diamond, quick to appreciate the many benefits of standardization, was the first to order a PS-1, which they in turn designated LV-62000.

Today the Lehigh Valley is serving its shippers and consignees with an expanded fleet of PS-1 Box Cars. Lehigh Valley Operating Officials have expressed extreme satisfaction with the performance of these cars.

Today LV-62000 has over 75,000 PS-1 descendants on order or giving dependable, economical, service on 75 railroads of the Great American Railway System.

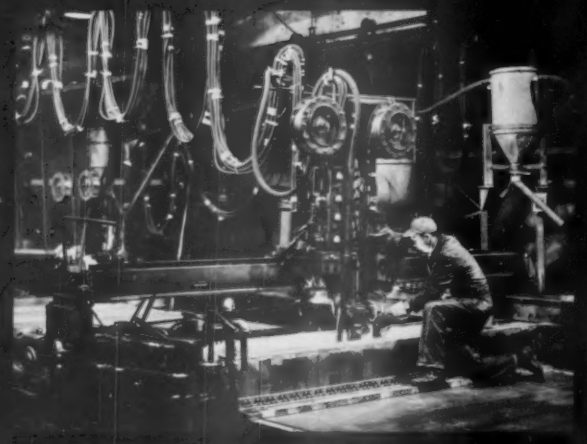
With standardization an obvious success, Pullman-Standard has added three more standardized freight cars to its line. They are the PS-2 Covered Hopper Car, PS-3 Hopper Car, and PS-4 Flat Car. Each, in its way, offers the railroad industry rolling stock benefits and performance comparable to those of the PS-1.

BUILT TO SERVE BEST ON THE
GREAT AMERICAN RAILWAY *System*
BY PULLMAN-STANDARD

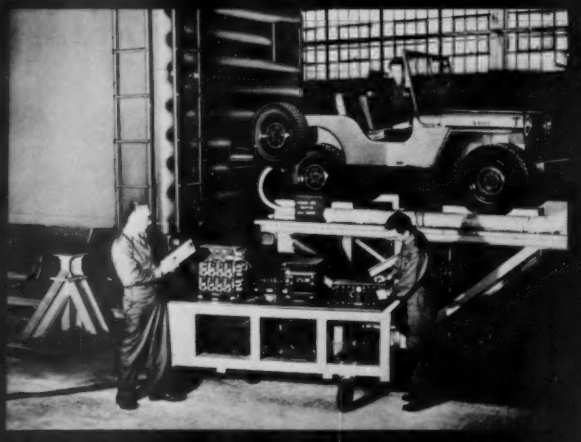
WORLD'S LARGEST MANUFACTURER OF PASSENGER AND FREIGHT CARS

PULLMAN-STANDARD
CAR MANUFACTURING COMPANY
SUBSIDIARY OF PULLMAN INCORPORATED
79 EAST ADAMS STREET, CHICAGO 3, ILLINOIS
BIRMINGHAM, PITTSBURGH, NEW YORK, SAN FRANCISCO, WASHINGTON

how the first PS-1 was built



Pullman-Standard utilizes many unique and highly advanced welding methods on standardized freight cars. Specially designed automatic welding machines, the only ones of their kind, supplement precision down-hand welding.

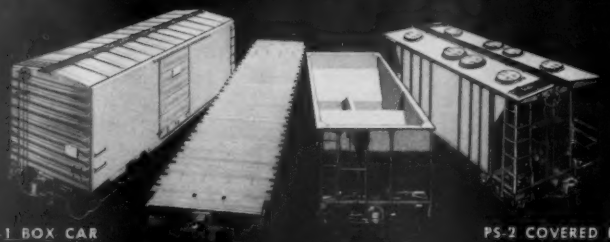


Pullman-Standard maintains the carbuilding industry's largest Research and Development Laboratory. Products, materials and procedures are subjected to exhaustive tests and scientific study in a constant search for improvements

Mass production techniques permit standardized freight cars to be precision built with costly dies, jigs and fixtures impossible for custom cars. Better cars, better performance and lower costs are the result.

Trained Field Service Engineers travel over 100,000 miles yearly inspecting cars built by Pullman-Standard and other carbuilders. These inspections factually record data that sometimes leads to design improvements.

Built to serve best on the
GREAT AMERICAN RAILWAY SYSTEM



PS-1 BOX CAR
PS-2 COVERED HOPPER
PS-4 FLAT CAR
PS-3 HOPPER CAR

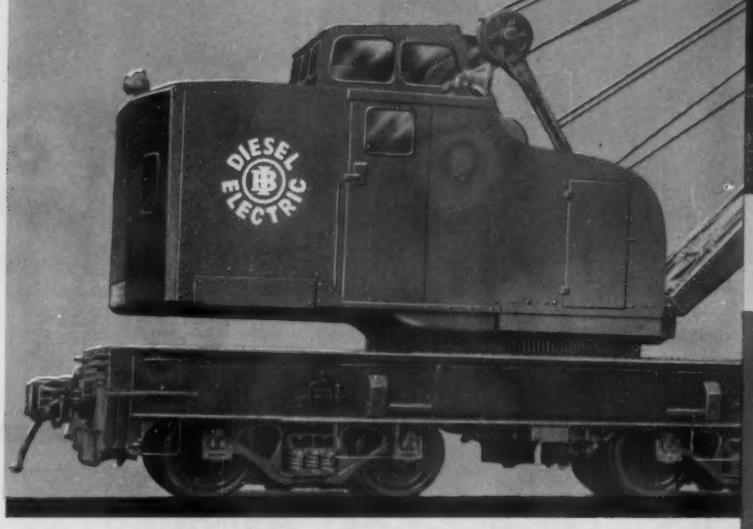
WORLD'S LARGEST MANUFACTURER OF PASSENGER AND FREIGHT CARS

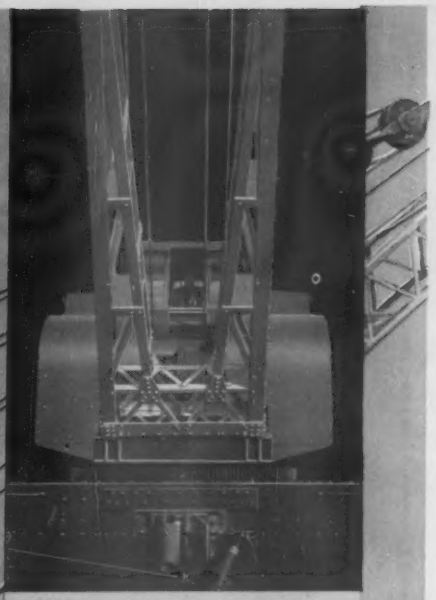
PULLMAN-STANDARD

CAR MANUFACTURING COMPANY
SUBSIDIARY OF PULLMAN INCORPORATED
79 EAST ADAMS STREET, CHICAGO 3, ILLINOIS
BIRMINGHAM, PITTSBURGH, NEW YORK, SAN FRANCISCO, WASHINGTON

FASTER and SAFER crane operation

with BROWNHOIST patented monitor type cab and clear vision boom





This view from below shows you the great visibility right through the middle of the Clear Vision Boom.

Windows on all sides of the raised Monitor Type Cab of a Brownhoist Locomotive Crane give the operator a full view of the area in which he is working, and the open type Clear Vision Boom lets him look right down at the work itself. This complete 360° visibility—to the sides, to the rear, and forward into the car—allows the operator to work more rapidly, without unnecessary crane swinging, and also increases safety by eliminating blind spots. The patented Monitor Type Cab has a door on each side, and all doors and windows can be opened for ventilation. A soundproof partition separates the operator from the engine and controls are placed within convenient reach of his adjustable seat. These factors assure ease of operation of the Brownhoist Locomotive Crane, and Brownhoist engineering assures maximum performance. Anti-friction bearings are used throughout including machinery side frames. The boom hoist is worm driven for smooth, safe operation. Dynamatic clutches disconnect all upperworks when travelling . . . give sure, positive control. High strength alloy steels bulwark the machine for heavy service. Throughout, Brownhoist Locomotive Cranes are designed and built for high capacity production. For further information write today for Catalog No. 548.

Approximate visibility from ordinary cab.

Approximate visibility from side-operated cab.

360° visibility from I. B. patented Monitor Type Cab.

Your operator can see exactly what he's working with in the car in front of him. Greater safety is the result.

188

BROWNHOIST MATERIALS HANDLING EQUIPMENT GIVES A LIFT TO AMERICAN INDUSTRY

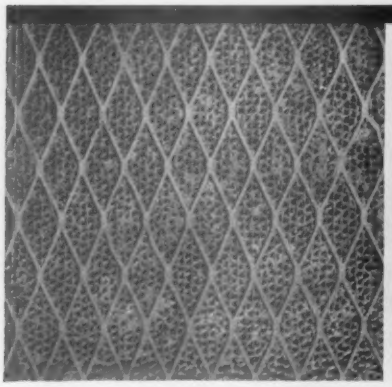
INDUSTRIAL BROWNHOIST CORPORATION
BAY CITY, MICHIGAN • DISTRICT OFFICES: New York, Philadelphia, Washington, Cleveland, Chicago, San Francisco, Montreal • AGENCIES: Detroit, Birmingham, Houston

SUBSIDIARY OF Penn-Texas

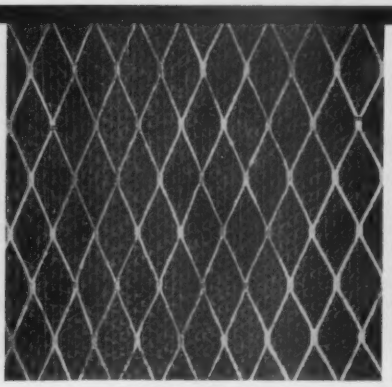
BROWNHOIST

Mobil Air Filter Saturant*

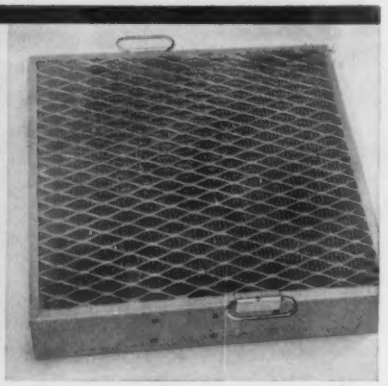
gives you top performance like this . . .



EXCEPTIONALLY HEAVY DIRT LOADS can be held by locomotive car body filters. Mobil Air Filter Saturant keeps filter surface oil-wet, ready to collect even more dirt.

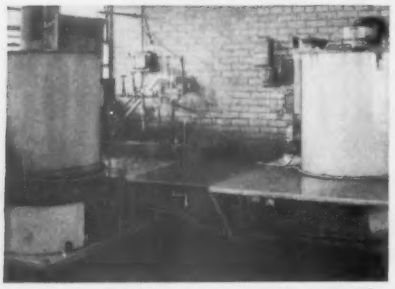


DIRT DOESN'T PASS! Note oil-wet, engine-room side of same filter. Gel-like structure prevents migration or drip. And, the proof—

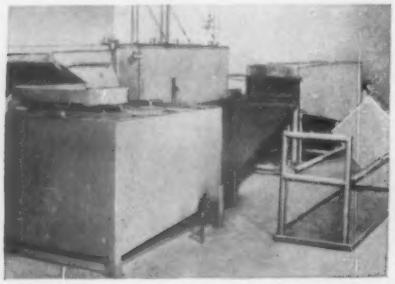


ENGINE INTAKE FILTER STAYS CLEAN!

plus—the Easiest, Lowest-Cost Handling in the Filter House!



APPROVED by all major manufacturers of filter-processing equipment.



CHECK THESE SPECIAL ADVANTAGES:

- ▶ Low temperature application provides for big steam savings!
- ▶ Use only the amounts needed for your dust conditions. Applications are easily controlled! Does not hang on frames!
- ▶ No odors to worry about in the filter house! No odors to worry about in passenger cars!
- ▶ No wash-resistant thickeners. Dirty filters clean easier!
- ▶ Good water separation characteristics prevent machine trouble!

Railroad Lubricants

SOCONY MOBIL OIL COMPANY, INC., and Affiliates:
MAGNOLIA PETROLEUM CO., GENERAL PETROLEUM CORP.

RAILROAD DIVISION

26 Broadway, New York 4, N. Y.
59 East Van Buren Street, Chicago 5, Illinois

*Patent applied for.

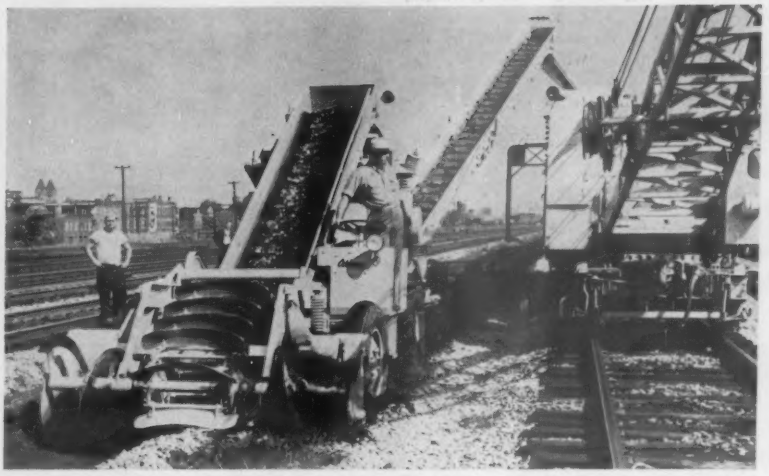
What's New in Products

Ballast Reclaimer

A new machine designed for reclaiming ballast from old roadbeds is said to be able to load and reclaim ballast at a rate of 140 tons per hour. Known as the Athey railroad ballast reclaimer, it combines the loading potential of the Model 125 HiLoader with a shaker screen and an elevating device. It can be quickly converted to the Athey force-feed track cleaner or to the 125 HiLoader stockpile or windrow loader.

The machine carries a patented full-floating feeder at the front equipped with a cutting edge which can be raised or lowered to the desired depth of cut.

The feeder carries the material to be reclaimed to a loader belt which transports fouled ballast to a shaker screen where dirt and fines are screened out to fall back to the ground. The cleaned ballast then moves to a receiving hopper from which it is elevated and loaded into railroad cars by a conveyor belt. Complete hydraulic controls, operated from the driver's seat, are said to raise or lower the conveyor belt to permit loading over the side of any applicable type of railroad car. The conveyor is so arranged that it can be swung 60 deg on either side of center. *Athey Products Corporation, Chicago* •



Non-Ferrous Metal Cutting

A development based on the Heliarc welding process has now provided a method of cutting non-ferrous metals with a gas-shielded arc. Heliarc cutting is said to produce a saw-like cut while the cutting speed is greatly increased and edge preparation and cutting costs are reduced. Heliarc cutting employs a high-temperature, high-velocity constricted arc between a tungsten electrode and the piece being cut. The energy of the arc stream melts and ejects a thin section of the metal to form a kerf. The jet-like removal of molten metal takes place in a gas atmosphere which prevents oxidation of the cut faces.

Equipment for mechanized and hand cutting is available. A mechanized cutting speed of 300 in. per min in ¼-in. aluminum is normal. With hand-cutting in ½-in. aluminum a speed of 60 in. per min can be achieved. While the process achieves with aluminum results much like those obtained with oxygen cutting in steel, studies are now underway on additional applications of Heliarc cutting to both the non-ferrous and ferrous fields. Major changes in the original Heliarc welding equipment are the addition of a pilot-arc starting circuit and a redesigned constricted nozzle. Most immediate application of the process in the railway field is the fabrication of aluminum tank cars. *Linde Air Products Company, 30 East 42nd st., New York 17* •

MECHANICAL clamp anchors right rear wheel to rail. Lowered lining head raises front wheels and spud is driven into roadbed.

HYDRAULIC jack raises left rear wheel from rail. Both left wheels are then retracted providing unobstructed view of rail for sighting.

Track Liner for Mechanized Gangs

A wheel-mounted "Linemaster," developed to be more adaptable for use with mechanized gangs, is now available. The machine is said to be able to line up to 6,000 ft of track per day and to be capable of throws up to 6 in. in either direction. Both left wheels may be retracted to give the man sighting an unobstructed view of the rail. It is equipped with a lining "target" for use with a scope. When the target is used it is unnecessary to retract the left wheels. Speeds, both forward and reverse, are 3 and 12 mph and the full operating cycle for each throw is from 40 to 50 sec.

Operating sequence for an unobstructed view of the rail is as follows: (1) Machine is spotted over crib where throw is to be made; (2) mechanical clamp anchors right wheel to rail; (3) lining head is lowered into the crib, raising the front wheels off the track, and spud is driven into roadbed for anchoring; (4) hydraulic

More New Products

jack raises left rear wheel off rail, and both left wheels are retracted hydraulically; (5) track is moved horizontally in either direction by hydraulic cylinders which push at the base of the rails. *Railway Maintenance Corporation, Pittsburgh 30, Pa.* •

Foam Insulation

Stafoam, a di-isocyanate foamed-in-place insulation is designed to meet specialized requirements of frozen food manufacturers. It meets EMS Spec 473. Revision A has a density of 1½ to 2 lb per cu ft and foams with little pressure and low exothermic reaction. It is fire retardent, vermin-proof, will not pack or settle under normal pressure or vibration conditions, and is moisture resistant.

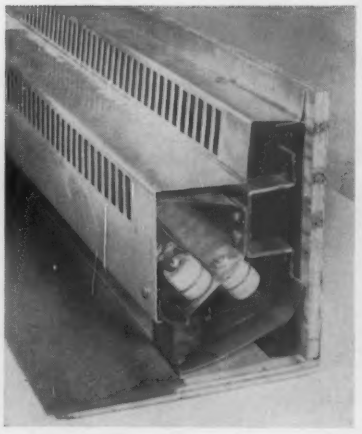
The Stafoam formula has a lower thermal conductivity than most conventional insulation materials. Most porous or semiporous insulation, unlike rigid Stafoam, according to the manufacturer, loses insulation efficiency because of moisture absorption.

Other advantages over conventional insulation are said to include elimination of moisture to prevent corrosion of hidden metal structures; quality of welding itself to the shells creates a structural member similar to plywood; ease of application saves many days of labor. Although Stafoam is more costly, a 75 per cent saving in insulation application time keeps end product expense at level of conventional construction. *American Latex Products Corporation, Hawthorne, Cal.* •

Midget Chain Hoist

A small, fast and safe hoist capable of lifting 250 lb has been developed. This 11-lb chain hoist has a standard lift of seven feet and a minimum distance of 9 in. between hooks. Extra chain is available for greater lifts. It is said that one man can lift a load 30 ft per min. with the midget hoist.

Each hoist is factory tested 100 per cent over rated capacity. The load is held by an automatic load brake at all times to reduce the possibility of accidents from falling loads. Ball bearing trolleys rated at 250 lb and made to fit all standard 3 to 10 in. I-beams are available. The trolleys have carburized, hardened wheels and grease seals for complete protection against dust and grit. Diameter of the tread of the wheel is 2½ in. and the weight of the trolley is only 12-lb. *Coffing Hoist Division, Duff Norton Co., Danville, Ill.* •



Convection Heater

The "Convectair" is an arrangement of electric strip heaters and reflectors that mount inside a heater guard. A strip heater is supported on each side of the reflector so that the higher wattage heater has a greater stack height and the lower wattage heater has the lesser stack height.

Reflector arrangement insures that the air passing over one heater does not pass over the other heater. Most of the heat is delivered to the car body by convection, resulting in a safe temperature of the heater guard which does not exceed 150 deg F. Its design fits into the space usually alloted for a floor heater guard and can be applied to existing cars.—*Ogontz Controls Company, 8029 York road, Elkins Park, Philadelphia 17* •

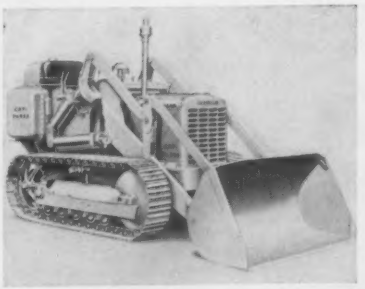
Ramp for Trailers

A new structural steel ramp has been introduced for loading and unloading trucks, automobiles, farm machinery, work equipment, etc., to and from flat cars. Designated as Semi-Portable Traileramp Model SP-1, the ramp features quick installation and mobility. The manufacturer states that it was designed for shipment on a standard flat car, and its initial cost is "considerably less" than permanent wooden or concrete ramps. *Brandon Equipment Company, Chicago* •

Spray Booth Paint Heater

A new traveling spray booth incorporates the DeVilbiss paint heater which has had a wide acceptance in industrial plants.

The heater reduces viscosity of paint materials and gives a greater hiding power since more solid is applied to a given area. With this greater hiding power achieved through better film build, the number of coats required is reduced and better protection for the surface is the result. *The DeVilbiss Company, 300 Phillips avenue, Toledo 1, Ohio.*



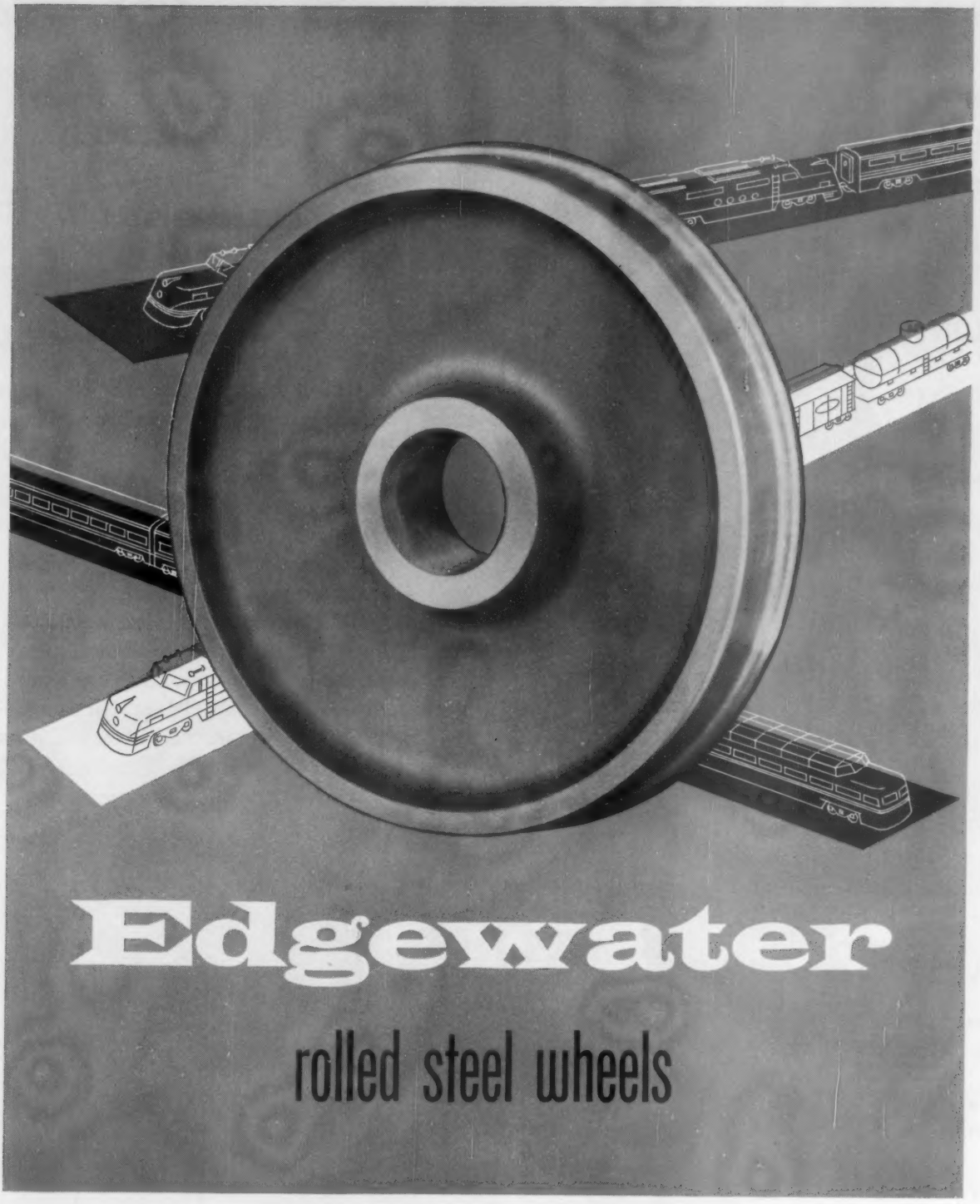
Tractor Shovel

A new integral tractor shovel in the Caterpillar D2 crawler-tractor class, the No 933 Traxcavator, has been announced. This 50-hp model with a 1-cu yd bucket is the third in the Traxcavator line. The new shovel is said to have an excellent horsepower-to-weight ratio, an advanced hydraulic system, large lifting capacity, good balance and stability, and fast response to controls, together with operator convenience and visibility. The machine includes a 40-deg bucket tilt-back at ground level, said to allow maximum possible bucket capacity under any conditions.

The new shovel includes an exclusive oil-type flywheel clutch which is reported to have a long life and require little adjustment. The track frame is of a five-roller box section with a 54-in. gage. A track chain of 37 sections, with 12-in., 3-bar grouser track shoes, is used. A large diameter fabricated disc-type idler and a 45-gal fuel tank are standard equipment.

Bucket lift and tilt controls are spaced within hand span for operating convenience. To improve visibility, the operator's seat has been set 10 ⅝ in. higher than the conventional D2 seat. The hydraulic pump is of the vane type and is driven from the front of the engine. This pump is reported to have ample capacity for simultaneous operation of bucket controls without loss of speed or power. Control valves are mounted within the sealed hydraulic reservoir system on the left front fender.

In-seat starting is available, using either a gasoline starting system equipped with 6-volt electric starting or a 24-volt direct electric starting system. Model No. 933 has reverse speeds up to 264 fpm and four forward speeds up to 528 fpm. *Caterpillar Tractor Company, Peoria, Ill.*•



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PASSENGER CARS
DIESEL LOCOMOTIVES

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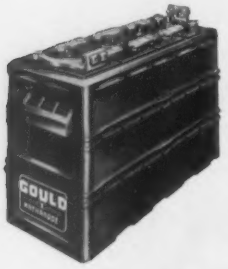

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PLYPAK *REDUCES* HOT BOXES by more than 80%

Sept. 12th 1955 Railway Age in "Pensy proves its Plypacks" reports 1/5 the percentage of hot boxes for Plypak equipped cars.

MORE THAN 200,000 PLYPAK WASTE RETAINERS IN SERVICE ON 32 RAILROADS

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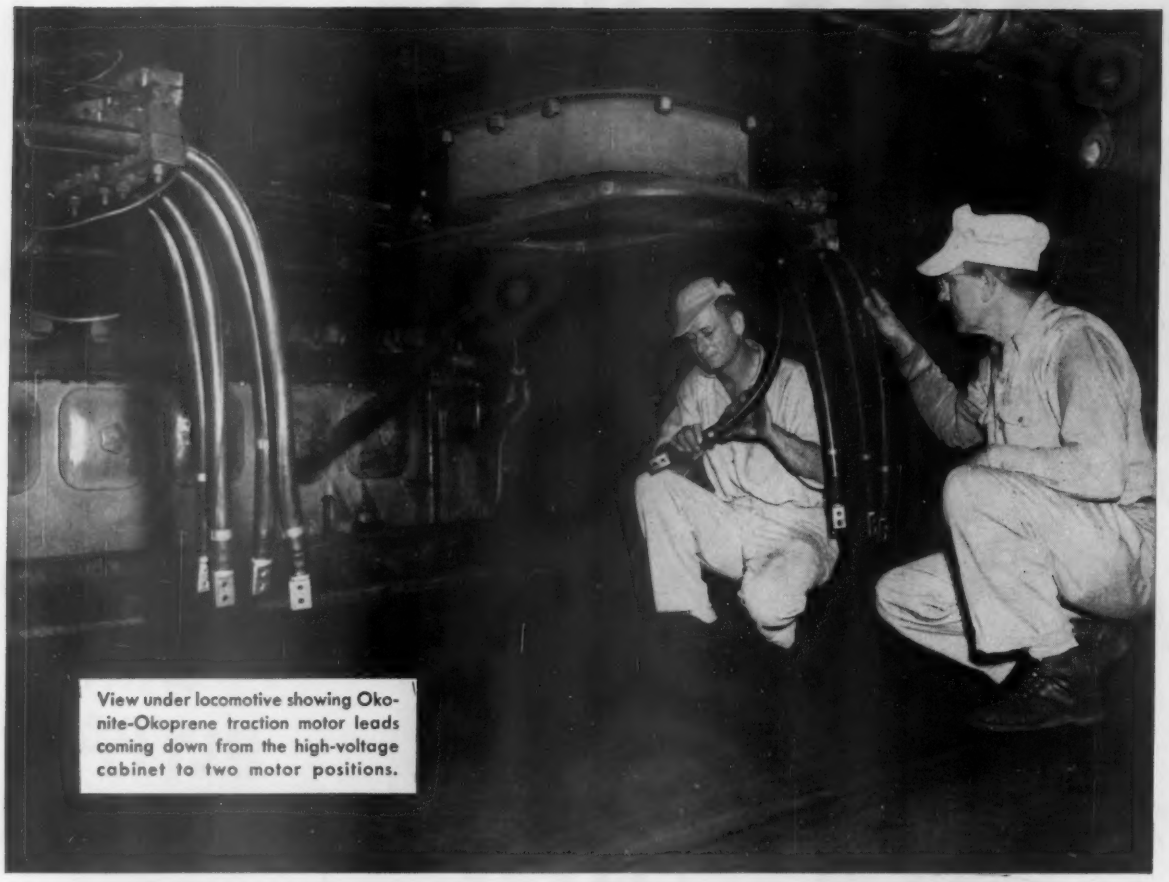


View under locomotive showing Okonite-Okoprene traction motor leads coming down from the high-voltage cabinet to two motor positions.

SEABOARD rewires its diesels with OKONITE-OKOPRENE for 3 good reasons

When the Seaboard Air Line Railroad overhauled its Baldwin-Westinghouse diesel-electric locomotives, Okonite-Okoprene Type DEL cable was used throughout. The power, auxiliary and control cabinets were reworked and completely rewired in addition to the lighting and control circuits.

The three reasons why Seaboard engineers selected Okonite-Okoprene, Type DEL, were:

1. Tough, dense, heat-resistant insulation. Okonite insulation, a mineral base compound, has been specified by railroads for over 75 years because of its high insulation resistance, electrical stability and outstanding physical characteristics.

2. Moisture, flame, grease and oil-resistant sheath. Okoprene, a neoprene base compound, was introduced by Okonite to the trade in 1937. It has proved its mechanical ruggedness through use as the protective covering on portable cables used in such demanding applications as mining and quarrying operations.

3. Proved service record. These mold-cured cables, made by Okonite's exclusive strip-insulation process, were the first rubber-insulated, neoprene-sheathed diesel-electric locomotive cables. The fact that this type cable has now become the standard for wiring railroad diesels is proof of its reliability and durability.

Physical dimensions and electrical characteristics are given for Type DEL cable in Bulletin RA -1078—"Okonite Cables for Railroad Use." This manual also contains information on other types of cables for railroad use and is available upon request to The Okonite Company, Passaic, N. J.

3391

OKONITE SINCE 1878 **OKONITE insulated cables**

Cost Knowledge Is Essential to Progress

"Railroad men—most of them, that is—are not cost-conscious—they are merely *expense*-conscious. When they get cost-conscious and price-conscious, then the railroads will really come into their own."

An assertion to this effect was made recently by a man who has studied railroad performance for a good many years. What he meant was that many railroad men tend to be more concerned with "cutting expenses" than they are with reducing actual costs. It is possible to reduce expenses—for instance, by deferring maintenance—while, at the same time, actually incurring higher long-run costs. It is possible also to reduce expenses by letting the quality of service deteriorate. In that case, the apparent reduction in costs is illusory, because the lower costs apply to an entirely different kind of service.

Minute attention to costs (as distinguished from expenses) comes hard in the railroad business, because so many costs are "joint" or "overhead" that it is hard to say *exactly* what the real cost of a given movement is. Also, until relatively recent years, railroads offered the only practicable means available for long-haul transportation. In those days, information on the cost of any particular movement was superfluous. As long as total costs were substantially less than total revenue, the railroad did all right.

Nowadays all this is changed—because if costs are not known (and used in pricing) the profitable traffic may easily be lost to competition, leaving the railroads only the hauls where costs are likely to be too close to charges to allow much of a profit.

The old-fashioned way of getting ahead in the world was to make a custom-built product of high quality, and to sell a modest quantity at a large mark-up to rich people. The modern way to business growth and prosperity is to sell a large volume of mass-produced products at a small profit margin to innumerable people, mostly those of modest means. Far more businesses have grown great by the modern method than by the old-fashioned one.

But the business which hopes to get ahead by attracting volume business at low prices—particularly under a regime of competition—has to keep a sharp eye on costs. And it has to be particularly alert to profit *margin*—the difference between costs and selling prices—on every item it sells. Because, when profit margins are thin, a slight change in them—if not detected and corrected—may quickly transform a substantial profit into an equally substantial loss.

The late Henry L. Doherty was not only a successful businessman—he was likewise a practical economist of great discernment. Quite early in his career, in the electric power business, he became deeply impressed with the fact that—instead of having to think up, himself, all the places where new and bigger customers might be discovered and developed—it would be easier and more effective to devise a system of rates (closely related to costs) which would make increased business "sell itself." He said:

"Better have several thousand customers planning means to use additional current, and thus diminish their kilowatt cost, than to attempt to do all this planning yourself."

So far as railroads are concerned, there have been two different approaches to the complex problem of rate-making. One approach has been to make rates in relation to costs of service. The other approach has been that of relating rates to "value of service." Formerly, the "value of service" could be pretty high, especially for articles of high intrinsic selling price in relation to bulk (e.g., silk or machinery or tobacco products).

"Value of service" nowadays—even for the most expensive products—is no greater than the cost to the shipper of shipping his own products in his own trucks or barges. The consequence is that, *today no matter whether you approach rate-making from the value-of-service side or the cost-of-service side, accurate cost information is indispensable.* If the cost-of-service method is dominant, then railroad costs have to be known. If the value-of-service side is to get the emphasis, then it is the "other fellow's" costs that must be known. In neither approach is it any longer practicable for railroad people to ignore specific costs—as it was in the days when they could "make up on hauling the finished products what was lost in hauling the raw materials."

The key to business success in an era of competition is to be found in costs—not only in ways and means of controlling and reducing them, but in knowing what they are (and the competitors') and putting this information to work in strategic pricing. Here is an area where inquisitive and imaginative railroad men could expend a lot of their mental energy, with every assurance that the effort would be highly rewarded.

Why the UP Makes Its "Movies"

About 1,000 prints with 50 different subject titles reach big audiences on screen and TV—and production costs are cut

Except for continuity pictures which require special sets, the Union Pacific makes its own "movies" at a cost saving of about 60 per cent over outside producers' charges. The road now has a "lending library" of 1,000 prints with 50 different subject titles, available for showing to screen and television audiences, nationwide. In the first 11 months of 1955, UP color films were shown 14,315 times to an estimated 92 million people. It is estimated that 561 TV showings reached 91 million. Live shows totaled 13,755, and the audiences just under one million.

The extensive educational and promotional program conducted by the UP in recent years under the direction of W. R. Moore, general director of public relations, leans heavily on motion pictures to carry its story both to employees and the general public. The mechanics of picture making, care and distribution are handled by a 6-man motion picture bureau, including V. H. Hunter, manager, an experienced cameraman, J. W. Patterson, and four assistants. Conveniently available, indexed storage space for films is provided at the bureau headquarters at Omaha. Other equipment includes two imported Arriflex moving picture cameras, modern lighting equipment, a Movieola film-editing device, and an Inspecto-Film electronic machine which saves many man-hours in cleaning, checking and repairing film prints.

Quality Foremost

The UP pays special attention to producing films of the best quality from a color and technical standpoint, utilizing the services of Richard Marvin, New York radio and television consultant, in making special television films, and checking railroad technical details with its own department experts.

Non-flammable 16-mm safety film is used to permit shipment by fourth-class mail. An efficient order form with five carbon copies greatly simplifies and reduces the chances of error in film handling. The original form with film title, order number, issue date, shipping date,

UP CAMERA MAN "shooting" from moving station wagon top in Death Valley.

HOW RESERVATIONS should *not* be taken — from "courtesy" film.

showing date, name and address of receiver goes into the master file. One confirmation form is mailed to the receiver or his agent. One form goes to the shipping room; one is used as mailing address on the film container; and the fifth is an attendance report which the receiver is requested to fill out and mail back to Omaha.

All films are carefully edited, cut and timed to suit the varying needs of users. Showing time varies from 10 to 40 min. Subjects cover a full range from scenic and travel pictures to agriculture and industry promotion, freight loss and damage, safety and courtesy. Television films are at present all black and white and generally take 12½ or 27 min, allowing time for the sponsor's "commercial."

Some television show subtitles are especially significant, indicating the extent to which the UP has gone in trying to help both agriculture and industry along its lines. A few of these, selected at random, are: "Logging Methods Modernized," "West Produces Many Sheep," "A Visit to the Milky Way," "The Egg and the Chicken," and "From Grower to Grower." All of these programs and the full-length movies from which they were taken are designed to help producers or manufacturers solve some of their problems, to stimulate public interest in their products, and thus to help build up railway freight traffic.

Proper methods of stowing, bracing and blocking freight loads to avoid loss and admage are shown in

THE UP FILM library and office at Omaha is a busy spot.

one UP film. Another emphasizes the importance of careful switching of cars in freight yards.

Safety has always been a primary consideration on the UP and is the subject of a number of films which have been shown both to employees and the public, being credited as a major factor in the safety record established by this railroad. A recent and excellent example of this work is the picture, "Look, Listen and Live," produced in cooperation with school authorities to tell the dangers of grade crossings and automobile speed.

This picture is used as part of a compulsory automobile driver's course given in some California high schools and is shown to about 20,000 students a month. Another safety picture, "The Long Way Home from School," is credited with greatly reducing children's taking short cuts through and playing on railroad property.

UP travel exploitation pictures were a factor in winning awards from the Midwest Travel Writers' Association of Chicago three years in succession and also top Travel Promotion award from the Railway Progress Institute in 1954.

One of the most successful recent UP pictures, "The Human Side," produced by Cate & McGlone of Hollywood, Cal., is devoted to courtesy, and attempts to show railroad men in all departments who have contacts with the public what they should *not* do. The film does not ram courtesy down the employee's throat, but rather utilizes sound principles of psychology in a demonstration of what wholesome work attitudes can mean to the employee as well as his employer.

F. B. Lewis, manager of the newly expanded safety and courtesy department of the Union Pacific, is currently showing this film to about 53,000 employees of the railroad. At major terminals, the picture is shown in company theaters. Where such facilities are not available, the film is screened in a special "courtesy instruction" car.

The road's moving pictures on agricultural subjects are also shown to audiences on the agriculture car which, staffed by specialists, travels constantly over the railroad to give "on the spot" advice and assistance to ranchers and growers. Some of these pictures have proved so constructive and helpful that the U. S. State Department has acquired prints for distribution to other countries.

ON TWO JOBS . . .

Methods Study

Using techniques common to other industries, the recently organized Methods and Cost Control Department of the Pennsylvania has reduced substantially the man-hours required to perform two car department operations of every-day occurrence.

The operations are periodic air brake inspection and journal box inspection. The procedure is based on use of flow process charts to show the manual effort involved in the operation and flow diagram charts to show the physical layout of the area in which the work was accomplished.

Prior to the methods study, the air brake job required a mechanic and a helper, who consumed an average of 3½ man-hours per inspection. By questioning and analysis, by combining and simplifying the operation, an index or goal of 1.75 man-hours was established for the air brake periodical inspection, and an index of 0.5 man-hours for cleaning and repair of the piston, or a total of 2.25 man-hours. At present a system average of 2.6 man-hours has been realized, and the 2¼ man-hour goal is expected to be reached in the near future.

The job is now being done with one man and saving $173,000 a year, with no deviation from prescribed air brake instructions. To accomplish this saving, once the job study was made, and the improved sequence of operations determined, meetings were held with the car shop foremen and chief car inspectors to enlist their participation and get the benefit of their thinking to effect the desired changes. Thus the interested people who were to do the work became familiar with the changes and the reasons that prompted the improved methods.

Addressing the Car Department Association of St. Louis on this subject, H. M. Wood, assistant chief mechanical officer-car of the Pennsylvania, said:

"We feel it is desirable to enlist the interest of the man doing the work, not merely for his specific contribution of ideas, but for the vital sense of participation created thereby."

The same approach was used to obtain improved methods for journal box periodical inspection, although some phases of the operation were more complex, such as procurement of materials, traveling time, preparation and set ups, and more people were involved.

Prior to this study, four people did the truck work, consuming an averge of 8.5 man-hours. By changing the sequence of operations, combining and simplifying, a goal was set up of 5.5 man-hours and the elimination of two men from the operation. At present, the system average is 6 man-hours per car, and the approximate annual saving is half a million dollars.

During air brake periodic inspection on the Pennsylvania, it is compulsory to jack up each car and run out both trucks from beneath it to make proper inspection of all truck parts and body center plates. Couplers and draft gears are required to be dropped and examined and draft stops to be gaged. This requirement resulted from an analysis of wrecks, derailments and damage claims over a 5-year period. The operations are

Saves $670,000

. . . ANNUALLY IN EQUIPMENT MAINTENANCE

being studied in a manner similar to the air brake and journal box work and a corresponding saving is expected.

Other accomplishments resulting from taking the analytical approach to problems were outlined by Mr. Wood. They include:

- In 1948, 64 per cent of plain journal bearings removed from passenger cars at time of lubrication attention had loose linings. Today renewal of bearings for loose linings is less than 5 per cent.
- Where average miles per hot box for all railroads increased 44 per cent, or from 172,703 in 1951 to 247,932 in 1954, the Pennsy's increased 70 per cent—from 131,591 to 225,800.

Two types of movable roofs for gondola cars have been developed—one consisting of two sections, operating on racks located on the top side member of the car with the two sections telescoping each other—the other with three removable sections which fasten to the top side member and which are placed on the ground by cranes during loading or unloading. Both types of roofs had to be equipped with metal running boards to meet ICC requirements. While the fit of the roof sections has provided adequate protection to the lading, these designs have not been universally accepted by the steel industry to date. Also, abuse in loading and unloading has led to very high maintenance costs on both cars.

A plastic cover for gondola cars is under investigation, Mr. Wood said. To date a plastic material has not been found of a thickness economical to apply to gondola cars which will take the abuse from wind action. Test loads are arriving at destination with the covers badly torn.

Too Much Variety

Analysis is under way on automatic slack adjusters which were applied to express box cars in head-end service 4 years ago. High mileage has been accumulated on the several types tested and this will soon be evaluated. Commenting on one aspect of the program, Mr. Wood said:

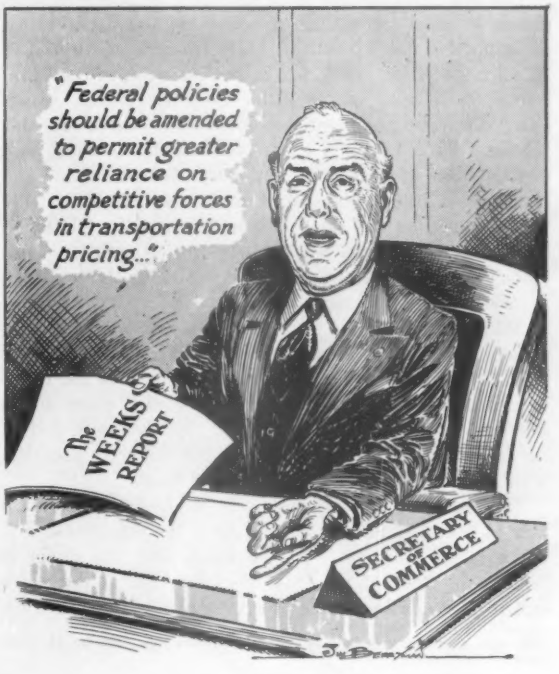
"On a freight car, wheels, axles, couplers, draft gear, brake beams, air brakes, and power hand brakes are of standard design and readily interchangeable. Slack adjusters, which will probably increase in numbers as they demonstrate their ability to successfully operate between air brake periodical periods, cannot be substituted one type for another on a freight car. We visualize that there will be wear in automatic slack adjusters, as well as other defects, that will cause the removal of the device when on shop tracks and, unless we have some standardization, we are going to be faced with a number of alternatives, all of which can be avoided.

"I can foresee either large inventories of various makes of automatic slack adjusters, inoperative equipment, or freight cars delayed for many days awaiting proper material to make repairs. I think it is time for the railroads, the supply industry, and the AAR Mechanical Division to take a more realistic approach to this matter."

Mr. Wood also discussed the PRR philosophy of methods and cost control.

"We are not looking at the total amount of money charged to our department as a criterion of the effectiveness of our planning. We all know that the easiest way we have to look good for a short time is to reduce the maintenance work we perform. I think we also know that it is the easiest way to get into trouble that may take years to overcome. In other words, *a dollar unspent is not necessarily a dollar saved.*"

"Competition today in transportation is keen, alert, and progressive and will continue to be more so as time goes along. . . . Railroads . . . to stay abreast of competition must visualize the need for higher train speeds, less terminal delay, fewer car failures en route, and reduction in loss and damage. To do this the railroad mechanical departments and the supply industry must accelerate improvements to the basic component parts of the freight car, such as wheels, bearings, truck spring arrangement, couplers and draft gear arrangement."


"Federal policies should be amended to permit greater reliance on competitive forces in transportation pricing..."
The WEEKS REPORT
SECRETARY OF COMMERCE

All-in-One "Prefab" Freighthouse

At their new Radnor yard near Nashville, Tenn., the Louisville & Nashville and the Nashville, Chattanooga & St. Louis have built a large, modern freighthouse which is notable for two principal reasons. First, the structure itself, which incorporates an underfloor towing system, is designed and arranged to promote efficiency and economy in handling merchandise. Second, being adjacent to the big, new yard, its situation offers advantages in handling merchandise compared with the facility it replaces, in downtown Nashville, 5½ miles away. Both of these features add up to better service for the patrons of the two railroads.

Construction of the new freighthouse, which cost about $1 million, is a logical development following completion of Radnor yard,* a joint L&N-NC&StL facility southeast of Nashville.

Prior to the construction of Radnor yard, freight-train classification and makeup at Nashville was handled in two widely separated yards. L&N trains were handled in the old Radnor yard, while NC&StL trains were classified and made up at the Kayne Avenue yards near Union Station in downtown Nashville.

Before the new freighthouse was built, loading and unloading of local lcl business for both roads, as well as transfer work, was handled in a joint freighthouse situated in downtown Nashville. This required a movement of 5½ miles between the new yard and the downtown facility. Construction of the new freighthouse at Radnor yard has eliminated this movement, thereby saving considerable time.

OFFICE BUILDING is at left and the record-storage building at the far right. In between is portion of main building

All Under One Roof

The new freighthouse is an imposing structure of considerable size. In overall dimensions, the freight-handling portion has a length of 1,030 ft and a width of 138 ft, all under roof. Included in the building are a warehouse 64 ft wide, three stub-end house tracks, which enter the structure from the north end, and a transfer platform 34 ft wide. A cross platform at the south end connects the warehouse with the transfer platform. The layout also incorporates four additional tracks outside the structure on the same side as the transfer platform. Thus, there are seven tracks, three inside and four outside, numbered from 1 to 7, beginning with the track adjacent to the warehouse.

Aside from the main building there are two additional structures. One of these, a single-story office building, 64 ft by 141 ft, is situated at the north end of the warehouse. The other is a 20-ft by 64-ft storage room at the north end of the transfer platform. At the south end of the latter platform there is an outside concrete platform with a ramp leading down to ground level.

The underfloor towing system in the freighthouse operates in a closed circuit serving both the warehouse and the transfer platform. At the south end, the chain is laid in the floor of the cross platform, but at the north end it descends by means of ramps to cross at the track level. The circuit has a total length of 2,750 ft and the towing chain operates at a speed of 100 ft per min. There are two drive pits, one on the transfer platform and one in the warehouse, and there is also a slack takeup pit in the circuit at a 90-deg turn at the south end of the transfer platform. The underfloor system is known as the Under-Tow-er and was furnished and installed by the Lamson Corporation.

The floors of the warehouse and the transfer platform consist of reinforced concrete slabs laid on compacted fill placed between concrete retaining walls on concrete footings. The construction is conventional except that all but one of the retaining walls are constructed of precast concrete wall sections, placed between concrete piers having integral lugs to take the outward thrust. The only poured-in-place retaining wall is that along the tailboard side of the warehouse.

Largest Armco "Prefab"

The superstructure of the main building departs from the conventional in that it is of prefabricated steel construction with the roof and side walls consisting of "aluminized" corrugated steel sheets fastened to the purlins and columns by clinch nails. The building actually consists of three bays or sections, one housing the warehouse, another covering the three house tracks, and the third, of lean-to construction, covering the transfer

*The new yard was described in detail in *Railway Age*, October 18, 1954, page 72.

Metal structure 1,030 ft by 138 ft, with underfloor towing system, replaces old L&N freight station in Nashville 5½ miles away

that covers north end of the under-floor towing circuit where it descends to the track level.

TRACK SIDE of the new freighthouse, looking north and showing the transfer platform. There are four tracks on this side.

TAILBOARD SIDE of the freighthouse is flanked by a wide paved area. There are 64 overhead rolling doors.

platform. The roof-supporting structures are all of the truss type, and they all provide clear spans between the wall columns. All trusses are painted aluminum to match the aluminized sheets. The building was furnished and erected by Armco Drainage & Metal Products, Inc., and is said to be the largest prefabricated building to be constructed by that company.

The transfer platform is open on the sides but the warehouse is enclosed. The 64 door openings in the side walls of this structure are fitted with overhead rolling doors made with aluminized steel slats.

Ample daylight illumination in the warehouse on the transfer platform is provided by skylights of corrugated translucent plastic. Artificial illumination consists of fluorescent fixtures. Ventilation in the warehouse is furnished by twenty-one 36-in. gravity ventilators in the roof.

The trusses for the main building were assembled on the ground at the site and raised with the aid of gin poles. All main connections are made with high-strength bolts.

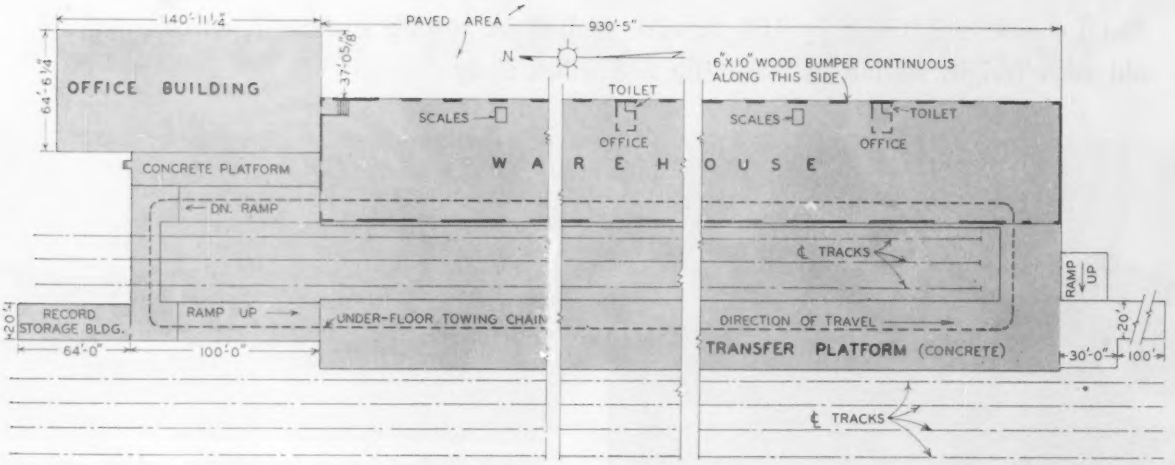
About half the length of the warehouse (the northerly half) is given over to the handling of inbound merchandise, while outbound business is handled in the southerly half. Along the east wall there are two small offices for the use of the warehouse foremen. The entire length of the warehouse on the tailboard side is flanked by a wide paved driveway for street vehicles which extends around the south end of the structure to serve the open platform.

The three house tracks, providing 60 car spots, are used altogether for the loading of outbound merchandise. Ten car spots on track No. 4 are also used for this purpose. Cars containing inbound freight are spotted on tracks 5, 6 and 7 and the remaining car spots on track No. 4. This provides 80 car spots for inbound business.

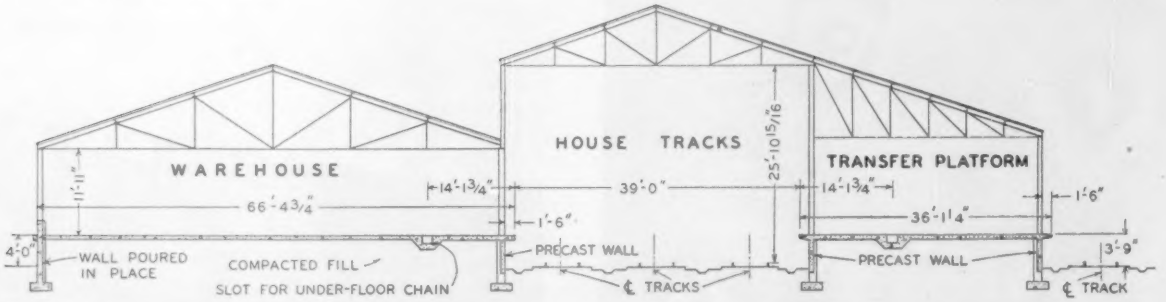
Merchandise requiring movement from one point to another in the facility is transported on four-wheel trucks attached at 15-ft intervals to the underfloor towing chain. They may be attached or detached as desired for movement between the tow chain and cars or street trucks. Other mechanical handling equipment includes two Yale & Towne fork-lift trucks and four Mercury tractors, all for handling bulky shipments.

The office building is an Armco Steelox prefabricated structure. Space provided here includes an office for the agent, a large general office, a counter and space for the cashier, a record room, a stationery room, restroom facilities for office personnel, a locker room for freighthouse workers, a boiler room, and an office for the depot master. The latter commands a clear view of the warehouse through large window areas. The office building is fully air-conditioned and the exterior walls and ceilings are insulated with glass wool batt-type insulation. Interior walls and ceilings consist of Steelox panels backed with Sheetrock. Floors are of Johns-Manville vinyl-plastic tile. Walls are painted green, the ceiling white and the floors gray. All lights in the offices are of the fluorescent type.

Fast communications as a means of promoting effi-



SHADED AREAS show those portions of the new facility that are under roof. All buildings are prefabricated.



THREE-BAY construction is indicated by this cross section. Three of the concrete retaining walls are of precast units.

OFFICE BUILDING, also prefabricated, is fully air-conditioned. Walls and ceilings are of Steelox panels. Floors are of vinyl plastic tile.

ILLUMINATION provided by skylights of corrugated translucent plastic is evident from this view taken in main warehouse. Tailboard side at right.

LIFT TRUCKS facilitate the handling of bulky shipments.

ciency throughout the new facility were given careful attention in the design of the freighthouse. The nerve center of the several systems is in the depot master's office. An intercommunication system between that office and the warehouse and transfer platform includes 12 telephones throughout the latter area connected to a telephone in the depot master's office. This system incorporates in the latter office a regular dispatcher's amplifier by means of which men on the platforms can call the depot master to the telephone. When the depot master picks up his receiver, the amplifier is automatically cut out. This system includes 12 paging speakers in the warehouse and on the transfer platform by means of which the depot master can call warehouse personnel to the nearest telephone. The telephones in this system were provided by the Automatic Electric Company, while the paging speakers were furnished by the Electronics Communication Equipment Company.

A separate communications system for checking car loading and unloading operations also centers in the depot master's office. The purpose of this system is to permit car checkers in the office to communicate with freight handlers in cars and on the platforms. A switchboard in the depot master's office provides the means of establishing communication between seven checking booths in an adjacent room and 67 outlets arranged singly or in pairs in the warehouse and on the transfer platform. For plugging into these outlets the freight handlers use reels carrying 70 ft of cord.

In each of the car-checking booths in the office there is a console with five keys, so that theoretically each checker can work with five handlers. A console in the agent's office permits him to monitor the work of the checkers. Each of the consoles in the car-checking room is connected with the general paging system. The car checking system was tailor made for this installation by the Electronics Communication Equipment Company.

Further telephone communication is provided by six lines from the 100-line Radnor automatic telephone exchange in the main yard office.

Waybills are delivered to the new freighthouse by a pneumatic tube system originating in the main Radnor yard office, 1¾ miles away. This system consists of a 5½-in. tube from the main yard office to the "bowl" office, and a 3-in. tube from the latter point to the new freighthouse.

Operations at the old freighthouse in downtown Nashville were on a five-day basis. The new freighthouse will be in operation seven days a week. The receipt and delivery of freight will continue on a Monday-through-Friday basis. On Saturdays and Sundays the operations will be confined mostly to the handling of transfer business.

This will make it possible to make local deliveries of freight on Monday morning instead of delaying them to Tuesday as formerly.

Cars loaded at the freighthouse generally will be sent over the hump for classification, but those destined for trains departing in the early evening will be switched directly into those trains at the departure yard nearby.

Construction of the new freighthouse was carried out under the general supervision of L. L. Adams, chief engineer, Louisville & Nashville, H. C. Forman, assistant engineer, and A. E. Drabnick, engineer of buildings. The building itself was designed by Armco Drainage & Metal Products, Inc., working with the railroad's engineers. L. D. Thomas, resident engineer, and Paul Hadden, assistant resident engineer, were in charge of the work on the ground.

CHECKING of shipments is done by clerks working in seven booths in room next to depot master's office.

SWITCHBOARD in depot master's office is operated by G. C. Chastain, assistant depot master. Board provides hookups between checking booths and handlers working in cars. ▶

ICC Would Limit Contract Trucking

Annual report's 39 legislative recommendations include proposals to keep such operations on "specialized-service" or "dedication-of-equipment" basis —other new controls over transportation also sought

Thirty-nine legislative recommendations, including new proposals to tighten the regulation of contract trucking, were made by the Interstate Commerce Commission in its sixty-ninth annual report which went to Congress last week.

The tighteners were proposed with a view to protecting common carriers by keeping contract trucking on the "specialized-service" or "dedication-of-equipment" basis. They include proposals to prohibit issuance of contract-carrier permits unless there is a showing that existing common carriers are "unable or unwilling to provide the type of service for which a need has been shown," and to provide that minimum rates of contract carriers "shall not be lower than the rates of competing common carriers for the same service, plus reasonable additional charges for any special services furnished by the contract carrier, except upon a showing of special circumstances."

The commission also wants the Motor Carrier Act's so-called agricultural exemptions limited to trucking from point of production to primary market, and it wants authority to require registration of all motor carriers subject to its hours of service and safely regulations. Such registrants would include private carriers operating interstate, the "agricultural haulers," and local carriers in commercial zones of municipalities.

Most of the 39 recommendations were repeaters from previous annual reports or other commission presentations to Congress.

The repeaters included calls for power to impose penalty per diem charges to expedite freight car movements, extension of reparations provisions to motor carriers and freight forwarders, liberalization of the fourth section, and limiting the application of section 22 rates to times of war or threatened war.

The commission also advised Congress again (*Railway Age*, January 2, page 9) that it should make a study of today's needs with respect to the furnishing of free or reduced-rate transportation. Section 22, and other sections with similar provisions, "allow too many preferen-

ICC's LEGISLATIVE RECOMMENDATIONS

The 39 legislative recommendations in the ICC's annual report included these proposals:

- That the Interstate Commerce Act's Section 1 be amended in three respects—to make its car service provisions applicable to express companies, to authorize the commission to impose penalty per diem charges to expedite freight car movements, and to bring under commission jurisdiction the equipment rentals which railroads pay to non-carriers.
- That Section 4(1) be amended so that railroads having circuitous routes may meet the competition of direct routes by publishing, without prior approval of the commission, rates involving "fourth-section" departures. This would limit the commission's fourth-section power to the matter of relief over direct routes, and "streamline" the section "without adversely affecting the public interest," the report said.
- That Sections 17 and 18 be amended, in turn, to permit the commission to charge applicants for admission to practice a "reasonable" fee, and to permit it to prepare statistical compilations and perform other like services for compensatory charges, the commission retaining the funds collected.
- That the record-inspection provisions of Section 20(6) be expanded to make them applicable to persons who furnish locomotives (as well as cars) to railroads.
- That Section 20a(2), which requires commission approval of security issues, be broadened to embrace any contract covering acquisition or lease of equipment not to be fully performed within one year of its date. This is a bid for control over conditional-sale arrangements under which, the report said, carriers are incurring obligations of $200 million annually without commission scrutiny.
- That Section 20a(12) be amended "to permit more extensive use of competitive bidding in the marketing of securities." This section now prohibits any officer or director of a carrier from profiting from security sales by such carrier; and the commission's proposal contemplates a liberalizing provision stipulating that the prohibition would not apply in cases where carrier securities were sold by competitive bidding.
- That Section 20b be amended to add safeguarded provisions under which controlled or controlling stockholders undergoing voluntary reorganization would be permitted to vote on its revamp plan. Here, too, the commission proposed other Section 20b amendments which it called "minor." They would modify provisions governing the solicitation of assents to reorganization plans.
- That Section 22 be amended to provide that special rates to government agencies (so-called "Section 22 quotations") could be given by carriers only in "time of war, or threatened war, or other national emergency," and to preclude filing by the government of complaints assailing Section 22 quotations. A third part of this recommendation suggests that Congress should "make a thorough study as to present-day needs respecting the furnishing of transportation at free or reduced rates."
- That Section 202(c) be amended to extend local drayage's exemption from regulation to drayage operations from cities on the border of the United States to points in Canada and Mexico.
- That Section 203(b) be amended to limit the so-called agricultural exemptions to trucking from point of production to primary market, and to "agricultural" commodities produced in the United States.
- That Section 204(a) be amended to authorize the commission to require registration of all motor carriers subject to its hours of service and safety regulations, but not otherwise subject to its jurisdiction.
- That Paragraph (4a) of Section 204(a), and the second proviso of Section 206(a) (1) be repealed. The former leaves motor carriers operating on intrastate routes free of all federal regulation, if their interstate business is relatively insignificant. Section 206(a) (1) permits motor carriers operating only on intrastate routes, for which they have state certificates, to handle interstate business without a certificate from the ICC, but the latter's regulatory authority otherwise applies to the interstate business. In both cases, the commission would permit carriers now operating under the exemption provisions to continue on that basis.
- That Sections 207(a) and 210a be amended, in turn, to make it clear that the commission has authority to issue

tial and free riders," the report said. It added that "these burdens upon the carriers are emphasized by the fact that passenger deficits have reached staggering proportions.'

The report, a document of 143 pages, was in the usual form, except that each of the legislative recommendations was followed by a supporting statement. The review sections covered commission activities and transport developments from November 1, 1954, to October 31, 1955.

"The passenger-train service deficit, the high cost of handling 'small' shipments, the level of taxes, and interagency competition" were identified as "some of the more basic problems of a continuing nature." The report proceeded to give the small-shipments problem considerable attention.

Its review of that situation, as the commission put it, "clearly indicates the presence of weak spots, particularly in rail and express service, in the transportation of small shipments. The report added:

"The large aggregate volume of small shipments indicates that the shippers need all possible sources of service for this traffic. . . . Plans have been advanced from time to time which look to a reorientation of this business through a basic realinement of services. We make no comment on the merits of any such plan, but the seriousness of the problem requires an energetic survey of all possible means of correction."

The report's discussion of railroad service, facilities and efficiency recalled that previous reports had pointed up the hot-box problem as a "key difficulty" in railroad operations. The discussion went on to note that the problem has been receiving further attention, which has resulted in modifications of friction bearings and additional applications of roller bearings. The report then had this to say:

"Research in the railroad industry and among manufacturers of equipment and the great variety of supplies railroads use continues to encourage the view that railroads will go far toward surmounting the difficulties they face in meeting shippers' and travelers' needs in a highly competitive situation. There clearly can be no letdown in these efforts. Also, there are many practices and facilities which have proved to be valuable in the experience of individual railroads but which do not find general acceptance in the industry. A readier and more universal adoption of some of these practices and facilities is desirable."

The discussion of car supply said one factor contributing to last fall's shortages was the closing or curtailment of shop operations which "permitted bad-order cars to accumulate in 1953 and 1954." The report's argument in support of its penalty per diem proposal suggested that such legislation might encourage railroads "to build or purchase their own cars."

The review of locomotive inspection work covered the fiscal year ended June 30, 1955. "For the first time in the 44 years since passage of the Boiler Inspection Act," it said, "a full fiscal year has elapsed without the occurrence of a steam locomotive boiler explosion."

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motor carrier certificates for specific terms, and to grant temporary motor operating authorities for periods of more than 180 days.

- That Section 208(c) be amended to repeal the provision whereby holders of bus certificates are automatically authorized to conduct special-party operations from the area of their regular-route operations to all points throughout the United States. Here the commission explained that some bus operators have applied for regular-route rights "solely for the purpose of obtaining thereby the right to engage in the transportation of chartered parties."
- That Section 209(b) be amended to empower the commission to limit the number of contracts under which a contract carrier by motor vehicle may perform service, and to provide that contract carrier permits may be issued "only upon a showing that existing common carriers are unwilling or unable to provide the type of service for which a need has been shown." Also, that Section 218(b) be amended to provide that the minimum rates of contract carriers by motor vehicle "shall not be lower than the rates of competing common carriers for the same service, plus reasonable additional charges for any special services . . . . furnished by the contract carrier, except upon a showing of special circumstances."
- That Section 212(a) be amended to make motor carrier operating authorities subject to suspension or revocation for failure to comply with any regulation of the commission, including insurance regulations promulgated pursuant to Section 215. Generally, the commission's revocation and suspension actions must now be based on failures to comply with rules promulgated under the Motor Carrier Act, so violations of rules promulgated under the Transportation of Explosives Act, for example, are immune.
- That penalty provisions of Section 222(a), and of the Safety Appliance and Hours of Service acts, be stiffened to provide for fines reflecting the decreased value of the dollar.
- That the commission be given emergency powers with respect to motor carriers and water carriers like those it now has with respect to car services of railroads, and that its authority to award reparations (now applicable in connection with rates of railroads and water carriers) be extended to motor carriers and freight forwarders.
- That provisions for the revocation of water carrier certificates and permits be added to Part III.
- That Part IV, which covers regulation of forwarders, be amended to require certificates of convenience and necessity as a prerequisite to entering the forwarder business, to end the exemption enjoyed by forwarders of used household goods, to make the exemption for shipper associations applicable only if they qualify as "bona fide," to tighten provisions of section 409 which permits forwarders to enter contract-rate arrangements with motor carriers, to extend the commission's regulatory authority to mergers and acquisitions of control of forwarders, and to liberalize Section 411(c) which now prohibits carrier officers from having an interest in forwarders.
- That Section 10 of the Clayton Act be amended to exempt from its competitive-bidding requirements transactions between a parent corporation and its wholly owned subsidiaries. In this connection, the report said there have been instances in which carriers "were handicapped by the expense and delay in complying when contracts for repairs, equipment, and supplies were between a parent corporation and a wholly owned subsidiary."
- That the Transportation of Explosives Act be "completely rewritten in the light of important developments in the 33 years since the last revision." The commission would have the rewritten act include specific provisions making it applicable to private and contract carriers also.
- That the U. S. Code be amended to provide that suits to set aside commission orders be brought against the commission instead of the United States. This proposal was made because the attorney general has sometimes declined to defend the commission, and in some cases "confessed error."
- That the Locomotive Inspection Act be amended to make its provisions more general and thus more flexible, and to eliminate provisions for appointment by the President of the director and assistant directors of locomotive inspection. The commission said the proposed changes are necessary if all potential benefits are to be realized from the merger of the former Bureau of Locomotive Inspection into the new Bureau of Safety and Service.

HIGH-LOAD DETECTOR RAIL extends across entire width of highway so as to "catch" trucks in either lane. Detector is on both sides of bridge.

Trains Stop If Bridge Moves

Detector sets signals if high load on a truck deflects detector 3/8 in. or more

In the Oregon lumber country, highway log trucks are loaded in pyramid style so that only one log rides on the top of the pile, and this often makes for high loading. What happens when the top log is 14 ft above ground, and the truck comes to a railroad underpass with a 13-ft clearance? You guessed it! The railroads have problems maintaining bridge alinements.

"If we knew when a bridge was hit, we could check it before a train passed over it," Southern Pacific engineers said. It was suggested that provision might be made to incorporate controls into the signal system so that when a bridge was hit, signals governing movements over it could be set to Stop. The signal department went to work on the assignment. Their solution—an underpass high-load detector.

Each detector includes a 132-lb rail supported in iron brackets, 5 ft apart, bolted to the web stiffeners and bottom flange of the plate girder of a bridge so the base of the rail is at the same elevation as the bottom of the girder over the highway pavement. Such a detector is located on each side of the bridge to "catch" highway trucks from either direction. The rail is held in normal position by a bolt through the base of the rail and the bottom section of each bracket.

How the Detector Works

At each bracket location, an insulated terminal is mounted in the web of the rail, and a second insulated terminal is mounted directly opposite in the upright section of the bracket. Each such pair of terminals is connected by a piece of stranded wire with eyelets. These sections of wire are made to exact length, so that if a high load on a highway truck strikes the rail with sufficient force to shear the bolts and move the rail more than 3/8 in. toward the bridge, the wires in one or more of the brackets are broken. At each end of the bridge an insulated terminal is mounted in a hole in the web near the end of the rail, and corresponding terminals are on special brackets bolted to the abutments or bent caps. If the rail is moved more than 3/8 in. lengthwise, the wires between these terminals are broken.

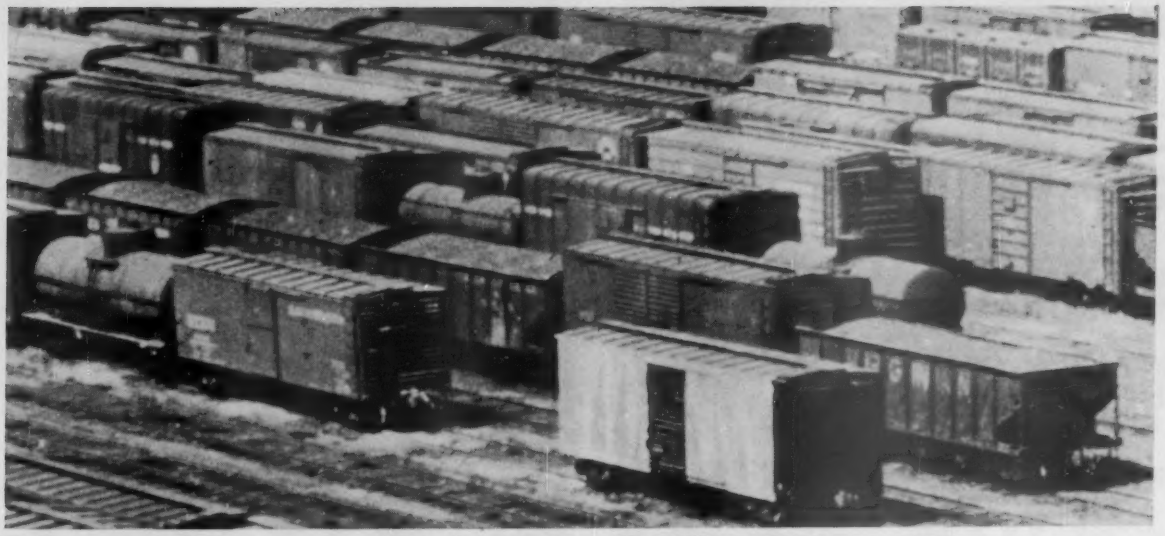
Each detector wire section, at a bracket location, is connected by a piece of insulated wire to the detector section in the next bracket, and so on, thus connecting all detector sections on the bridge with one series circuit. When any of the detector wires are broken (i.e., the bridge is moved), the signals in approach to the structure display their most restrictive aspects.

"P" Marker on Signal

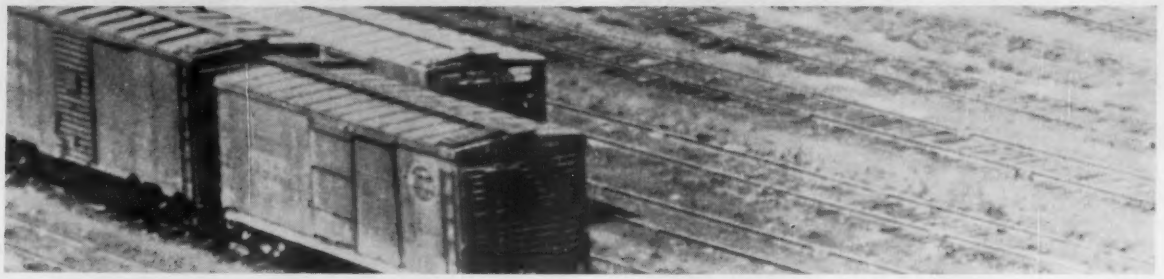
Each such signal has a special triangular sheet metal marker with the letter "P" painted on black background. The "P" stands for special protective devices, and information in the timetable explains that the "P" on the two signals approaching this bridge relates to the high-load detectors, and that when such a signal indicates Stop, the train is not to cross the bridge until it is inspected by qualified railroad men such as bridge inspectors and track foremen.

Two of the three installations of these highway high-load detectors are in centralized traffic control territory in Oregon. When either of these detectors is operated, a corresponding indication lamp is lighted on the dispatcher's CTC control panel, so he can immediately notify the bridge, track and signal men to go to the bridge.

A rail is used as the movable detector element so as to have sufficient weight to prevent the detector from operating when struck by a force that would not affect the bridge. These high-load detectors were developed by the Southern Pacific's signal department, under the jurisdiction of H. B. Garrett, signal engineer.



How Many Repair Bills Here?



Are Railroads Spending Dollars To Chase Dimes?

Two years ago representatives of a dozen or so roads got together and decided to simplify the procedure for billing minor train repairs.

For years railroads have billed each other for freight-car repairs by making out a bill listing each item individually. Essentially the procedure is this: If 652 brake shoes are applied to cars of the ABC railroad by the XYZ road, the bill lists brake shoes and the unit price 652 times (in addition to such other items as 183 brake shoe keys or 58 journal box lids, treated the same way). Furthermore, a card for the repairs made is attached to the bill. Such effort to double-check every last item of expense, down to the repetitious minor charges, has been characterized as "spending dollars to chase dimes."

The group of cooperating roads agreed to accept bills from each other that in effect carried one item for 652 brake shoes once instead of 652 items, each for one brake shoe. To allow the receiving road to verify or check the bills, they continue to attach the appropriate repair cars to the typewritten bill which lists the grouped totals.

How has this plan worked out and what are its future possibilities? These questions were explored by a committee of the Railway Systems and Procedures Association. In general, it reached the following conclusions:

1. Billing costs can be cut substantially by showing totals for minor items rather than listing each one separately.

2. Reaction of the participating railroads varies from satisfied to enthusiastic.

3. The plan should be extended. Part of the savings are now being dissipated because cards have to be sorted between roads that participate in the plan and those that do not. Also two different procedures have to be set up for billing the two groups of roads.

4. The interchange rule should be amended to permit (though not require) use of the simplified billing system. This would answer the principal objection of those roads that were invited to participate in the plan but did not.

5. Three of the rules (101, 107 and 111) should be examined to establish a unit price that would include both labor and material on many items on which these charges are now separate. This would be beneficial under either the present or the simplified billing system. Under the latter it would also extend the number of items that could be group-billed.

Behind the movement to simplify billing for minor train yard repairs are findings like one on the Rock Island which showed that 69 per cent of all items billed are small charges that amount to only 17 per cent of the total dollar value. Another road found that out of 2,426 items, 1,597 consisted of six different types of repairs (brake shoe keys, cotter keys, brake shoes, brake shoe

(*Continued on page 69*)

KEY TO RAILROAD PROGRESS . . . ELECTRICAL PIONEERING

G.E.'s traction system gives railroad locomotives maximum performance 3 ways

1-HIGHER CONTINUOUS TRACTIVE EFFORT

Locomotives equipped with G-E traction motors consistently prove their capacity for carrying heavier loads. That's because the GE-752 motor has 15 percent higher continuous tractive effort, at comparable gearings, than any other motor in railroad use.

2-FEWER LOCOMOTIVE ROAD FAILURES

Road failures due to generator flashover are practically unknown on locomotives equipped with G-E traction generators because of the generator's inherently high machine stability, mycalex brush-holder insulators (which unlike the porcelain insulators in other generators will not shatter during flashover), and a brush-holder shield that drastically reduces damage to the brush rigging.

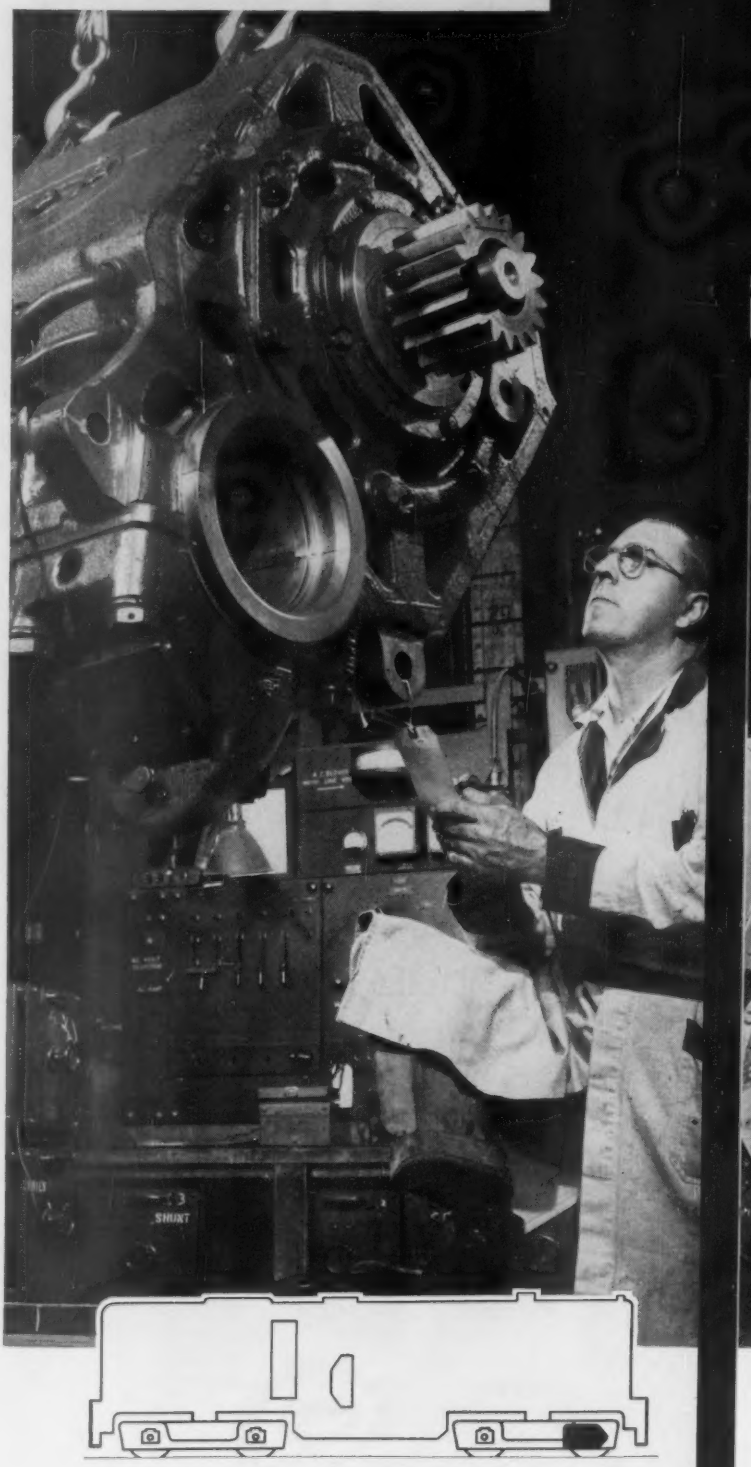
3-MINIMUM MAINTENANCE REQUIREMENTS

It's important to reduce or eliminate the small, continuing, and aggravating maintenance problems that occur on some control systems. In actual tests, G-E control has operated hundreds of thousands of miles in heavy mainline service with complete reliability.

Thirty years ago, General Electric supplied the first traction system—traction motors, generators and control—for the nation's first diesel-electric. Since then, G.E. has developed and is developing and perfecting other products from caboose power equipments to powerful electric and gas turbine-electric locomotives to help the nation's railroads maintain leadership in the transportation business. As the nation grows, and as the railroads grow, G-E research and engineering will be constantly at work to further railroad progress. Ask your G-E Apparatus Sales representative for more information, or write Section 135-1A, Locomotive and Car Equipment Department, Erie, Pa.

Progress Is Our Most Important Product

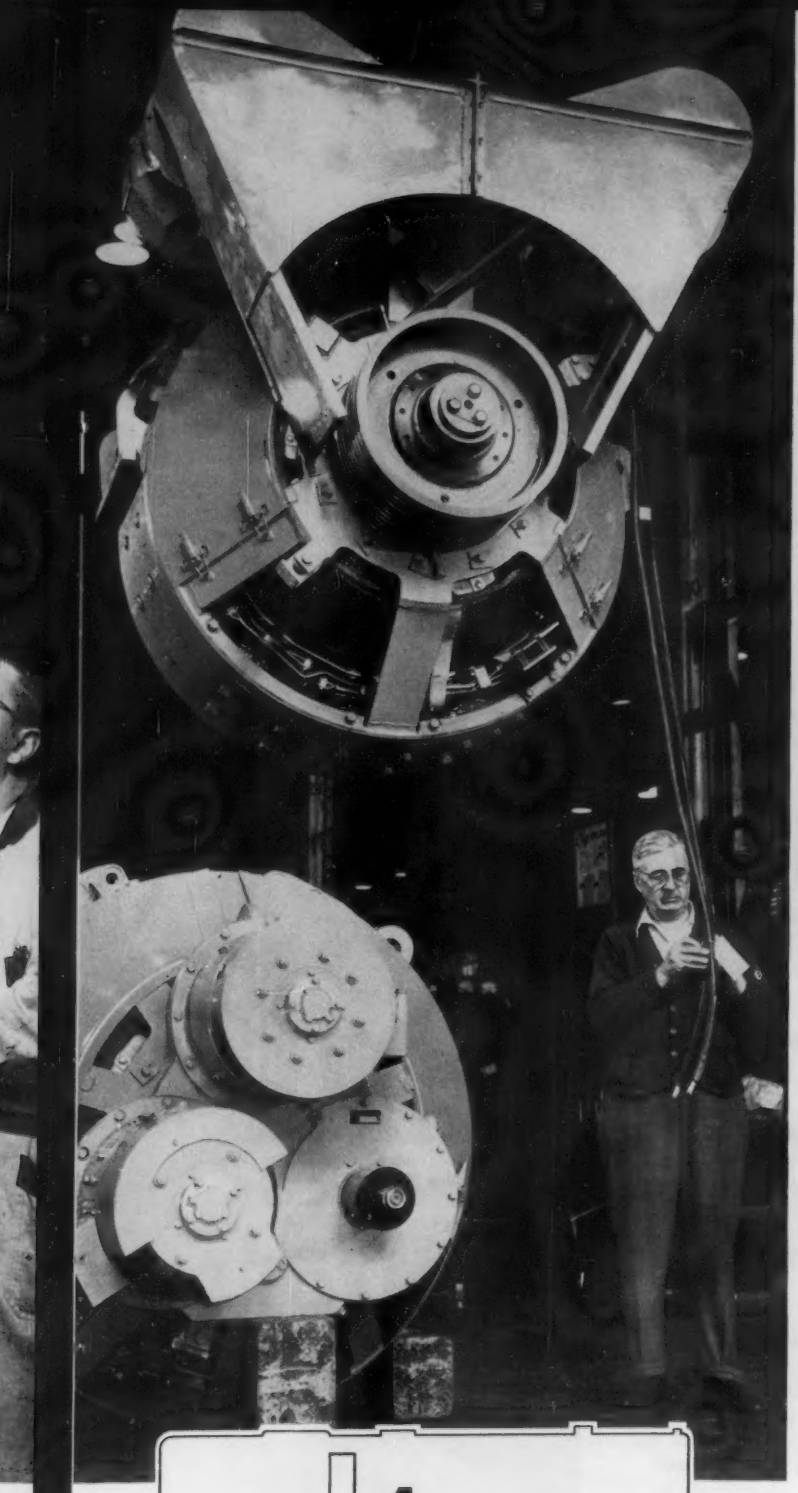
GENERAL ELECTRIC

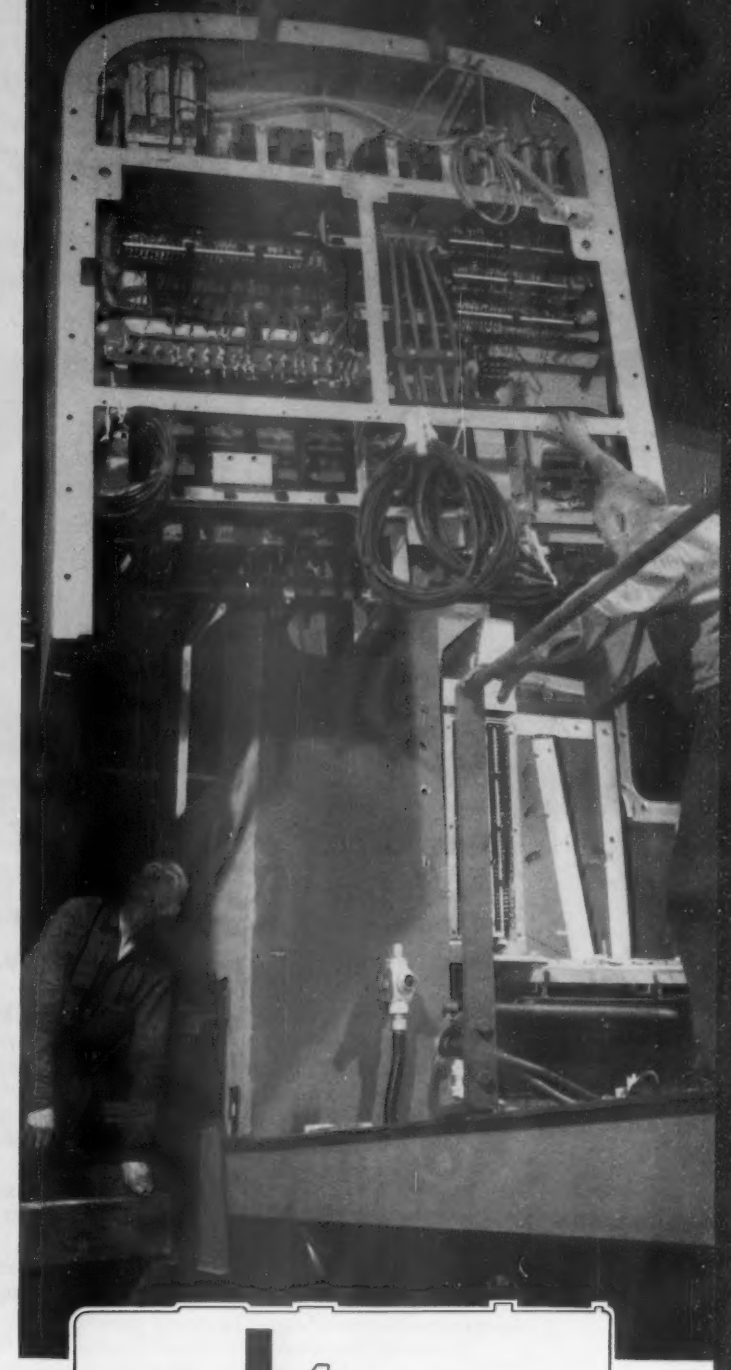


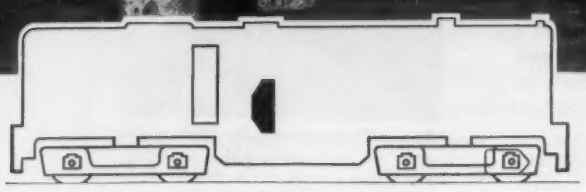
1 G-E TRACTION MOTORS GIVE YOU 15% HIGHER CONTINUOUS TRACTIVE EFFORT

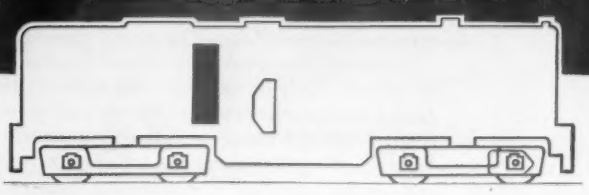
More working material in the GE-752 motor (12 percent heavier than any other motor offered for standard application) means higher ratings. The effective use of additional active copper and iron results in the most powerful traction motor available today.

GENERAL ELECTRIC









2 G-E TRACTION GENERATORS ARE BUILT TO REDUCE LOCOMOTIVE ROAD FAILURES

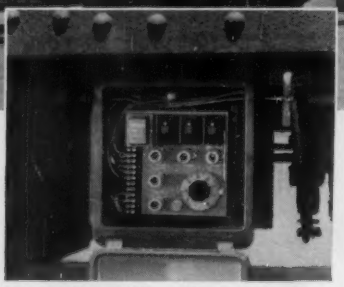
Because they are designed specifically to take flashovers in stride, G-E traction generators help protect your locomotive from frequent and costly road failures. In most cases, if a G-E generator flashes over, it simply recovers and the locomotive continues its run.

3 G-E CONTROL REQUIRES MINIMUM MAINTENANCE BETWEEN ANNUAL INSPECTIONS

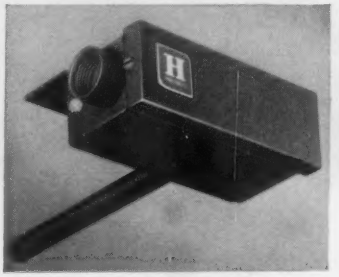
G-E control is simple in construction, with fewer moving parts than other systems. In actual railroad service, locomotives equipped with G-E control have operated from annual inspection to annual inspection without a single detention being charged to the control system.

Save on installation, operation, and maintenance with

Honeywell Automatic Temperature Control!



Control Panel for under car type of installation provides "fingertip control," easy-to-read dial, divided into heating and cooling range.



Space Thermostat with sensing element can be mounted within the refrigerated space or in the return air duct. Electronic sensitivity makes it accurate to within a fraction of a degree.

Most accurate—easiest to install and maintain simplest to operate—fail safe.

MORE and more shippers like the Fruit Growers Express, are specifying Honeywell Temperature Control Systems on their mechanical refrigerator cars—to cut initial costs, operating costs, and maintenance.

The extreme sensitivity of the Honeywell electronic system makes it possible to maintain any given temperature far more accurately—within the limits of refrigeration equipment. This guarantees safe shipment of fresh or frozen foods—or allows ripening en route.

Honeywell Electronic Temperature Control is easier to install, too. No complicated tubes wound thru car ceilings or walls. Only one simple sensing element is used.

Complete accessibility cuts service and maintenance costs. Adjustments or replacement can be made without tearing up car walls or ceilings.

Honeywell Electronic Temperature Control is also the simplest system to operate. Easy-to-read, one-dial control panel, (see illustration) indicates temperature settings. Allows yard personnel to make check, or change setting without complicated instructions or training.

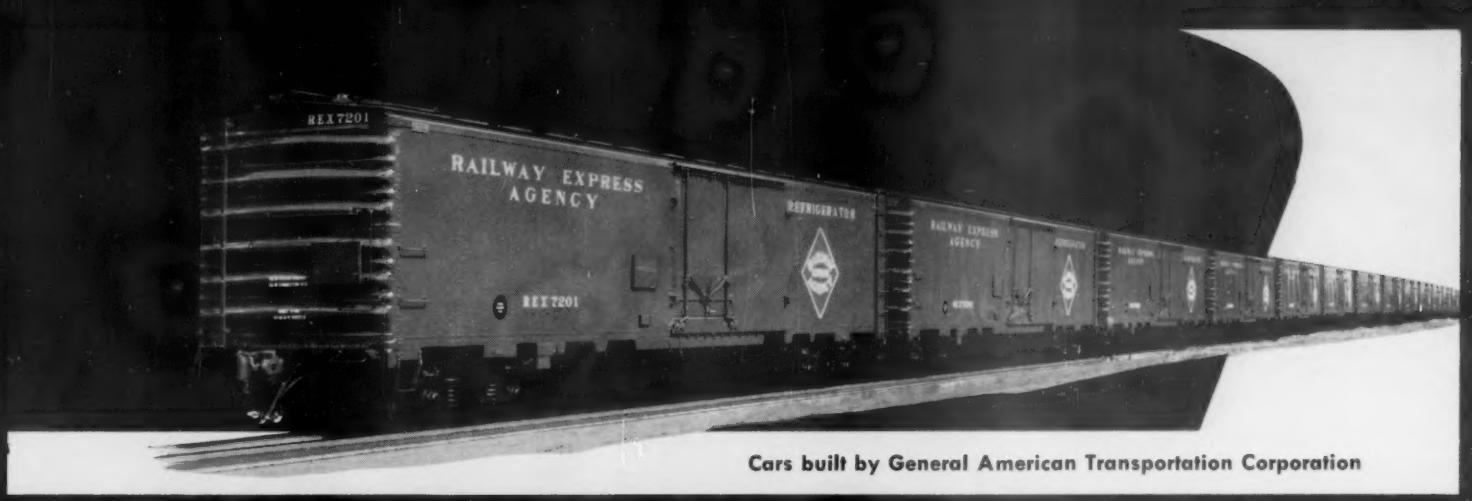
So if you're planning to build, buy or convert mechanical refrigerator cars—make sure they have *Honeywell* Electronic Temperature Control.

MINNEAPOLIS **Honeywell**

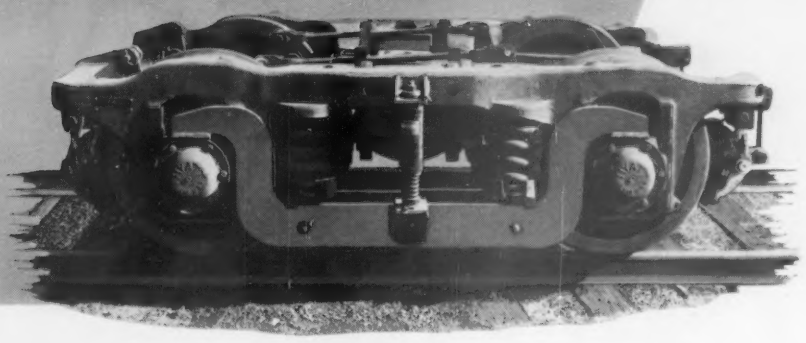
Transportation Controls

112 OFFICES ACROSS THE NATION

For complete information on the Honeywell Electronic Temperature Control, write to Honeywell, Dept. RA-2-15, Minneapolis 8, Minnesota.



Cars built by General American Transportation Corporation



Commonwealth BX Truck

Here's Progress!

500 New Refrigerator-Express Cars for RAILWAY EXPRESS AGENCY Equipped with Commonwealth BX Type Trucks

Because of many years of outstanding performance of Commonwealth Trucks on cars of the Railway Express Agency and railroads throughout the country, this new lot is equipped with latest design Commonwealth BX Type Trucks. When not transporting perishables from the west coast and the south, these cars are used for LCL express shipments and bulk mail handling in fast train schedules.

Equalizers, swing bolsters, coil springs and friction snubbers combine to provide smooth, safe riding of light or loaded cars, protecting car contents, thereby minimizing damage claims. The rigid one-piece cast steel truck frames with integral cross transoms and pedestals insure axles being in tram at all times.

Commonwealth BX Trucks are approved for all types of Express-Refrigerator, Box-Express and Merchandise cars operating in all classes of passenger trains. For dependability and true economy be sure to specify Commonwealth Trucks.

GENERAL STEEL CASTINGS

GRANITE CITY, ILL. EDDYSTONE, PA.

Rolling Steel Doors

Manually, Mechanically, or Electrically Operated

MAHON CHAIN-GEAR OPERATOR

MAHON STANDARD POWER OPERATOR 920-P

For any type of opening where positive protection, long life, and convenient, timesaving operation are important, the logical answer is a good power operated rolling steel door. No other type of door can match their space-saving compactness in operation . . . the vertical roll-up action of the door curtain occupies no usable space either inside or outside the opening—and, there are no overhead tracks or other obstructions to interfere with material stacking or crane handling adjacent to door openings. A quick-opening, quick-closing Mahon Power Operated Rolling Steel Door will save valuable space and valuable time in any type of opening. In addition, Mahon Rolling Steel Doors are permanent—their all-metal construction assures a lifetime of trouble-free service, and provides maximum protection against intrusion or fire . . . they require less maintenance too, because, when the door is open, the interlocking steel curtain is rolled up above the opening safe from damage. When you select a Rolling Steel Door, check specifications carefully . . . you will find extra value built into Mahon doors—for instance, the galvanized steel material, from which the interlocking curtain slats are rolled, is BONDERIZED and DIP-COATED with synthetic enamel which is baked on at 350° F. prior to roll-forming. You will find other important Mahon features, in both design and materials, that add up to a greater over-all value. See Sweet's Files for complete information and specifications, or write for Catalog G-56.

THE R. C. MAHON COMPANY • Detroit 34, Michigan

Sales-Engineering Offices in Detroit, New York and Chicago • Representatives in Principal Cities

Manufacturers of Rolling Steel Doors, Grilles, and Automatic Closing Underwriters' Labeled Rolling Steel Fire Doors and Fire Shutters; Insulated Metal Walls and Wall Panels; Steel Roof Decks and Long Span M-Decks; Permanent Floor Forms; and M-Floors (Electrified Cel-Beam Floor Systems).

ROLLING STEEL DOORS, SHUTTERS AND GRILLES TO MEET EVERY REQUIREMENT

In the Diesel Locomotive Roundhouse illustrated above there are fourteen 12 Ft. x 16 Ft. Mahon Rolling Doors installed in track openings. These permanent, all-metal doors replaced old wooden doors.

MAHON

(Continued from page 63)

wear plates, journal box lids and coupler lift hole caps). These items could therefore have been consolidated rather than written 1,597 times. Further, the 1,597 repetitive items comprised 66 per cent of the total number of items but they amounted to only 13 per cent of the total dollar value of the entire bill. A study on a third road showed that on one bill with 10,009 items, 5,591 could have been written in only 7 lines had the simplified billing procedure been used.

Savings accrue to both the railroad sending the bill and the line receiving it when the simplified procedure is adopted. In the Rock Island bill, grouping the 1,597 items saved no less than 41,242 key depressions on a typewriter. This reduced typing time by 65.5 per cent, or 2½ hours. A further saving can be made where the receiving road does not require pricing of each card that accompanies the bill. In that case, only the top card for each class of repair need be priced.

The receiving road can save time auditing the simplified bills because minor items are grouped, not interspersed with repair cards covering heavy repairs. This permits a count of cards for minor items and one calculation for each group of repair cards.

One of the problems in getting simplified billing adopted is that the mechanical department man may not see where he will benefit from changing a procedure with which he has long been familiar. When the procedure is coupled with a revised form of billing repair card, which eliminates writing out the name of the item applied and the reason for it, the Rock Island found there can be a definite advantage to the mechanical department. Following a 7-day trial of a preprinted repair card form at a medium size yard, the mechanical supervisor wrote:

ASSOCIATION OF AMERICAN RAILROADS – BILLING REPAIR CARD
CHICAGO, ROCK ISLAND AND PACIFIC RAILROAD COMPANY

Date ____ 19__ Repaired at ____ Inspector ____
Car No. ____ Initial or Name ____ Kind ____

END							CHECK REASON FOR MAKING REPAIR
	AIR HOSE	Good Second Hand New					RULE 50- Item 1 2 3 4 5 6 7 8 9 0
	BRAKE SHOE	Second Hand					RULE 43 - Item 1 2 3 4
	BRAKE SHOE KEY						ST BRO R WO
	BRAKE HANGER						ST BRO R WO
	BRAKE HANGER PIN						ST BRO R WO
	COTTER KEY						ST BRO R WO
		TOTAL					

BY REDUCING pencil work to little else than checking off the repair made and the reason for it, this card can be a time saver for the mechanical as well as the accounting department.

"This type of repair card would be helpful in bad or wet weather when it is difficult to write legibly, and I believe it would assist in getting cards made promptly at the car and more easily read by the billing clerks." The accounting department felt the cards are easier to sort, more legible, reduce correspondence, and generally expedite the procedure.

Following the test, the car foreman suggested a few changes in the card, which, if adopted, he said, could save the mechanical department 50 man-hours per month.

Another possibility being explored is to print the items on a business machine card, and include a carbon-back tissue on top of the card. This would eliminate all writing except the one time at the repair point. Here the carbon-back tissue would be retained as the original record, while the machine card would be sent to the central bureau for mechanical processing and pricing.

Benchmarks and Yardsticks

THERE'S NO MORE PERSISTENT "human relations" problem in the management family than the relations between "staff" and "line" officers. For example, can the line officer be given the benefit of the specialized help the staff man can provide—without losing as much as he gains from real or potential interference with efficient day-to-day operations? Robert C. Sampson, formerly director of staff services of the C&O, has written a book ("The Staff Role in Management—Its Creative Uses," published by Harper) which ought to help answer such constantly recurring questions.

Mr. Sampson devotes many pages to the reasons why "line" executives frequently look without much enthusiasm on "staff" people. Briefly, "line executives resent being pushed, manipulated or 'experted'." Too often, staff people are, or are believed to be, efficiency experts, regulators or "empire builders." Since, as the author says, line executives are primarily "thing-minded, not people minded," it is in connection with people—especially hiring them—that staff officers are most frequently misunderstood.

The author seems to have the answer to the problem. It is, namely, that staff officers should voluntarily limit their status and their activities. Staff officers draw the basic principles of their calling from the four fields of engineering, accounting, law, and the military. All of these fields, he comments, are "logic-tight and inapplicable to modern-day business management." Staff cannot do the thinking for line management. "Knowing, thinking, planning is being repeatedly stressed as the key function of top management."

The author has a word of advice for staff men: "Accept the outsider role. Be friendly and sympathetic at all times. Remember that the staff job is such that there is no possibility of being 'one of the boys' with line executives. Parenthetically, it might be added that being an outsider enables the staff man to be free to some degree of suspicion, favoritism, prejudice, or of indulging in personal politics."

Mr. Sampson also advises staff men to refrain from empire building. Rather than try to find more kinds of specialized staff assistance, they should emphasize the point of keeping every possible activity in the "line" organization. Summing up, he quotes Ordway Tead to the effect that "a demand for an exercise of authority is a confession of weakness."

The staff man's real usefulness to a corporation is in giving it *unity*. "The hope for reducing personnel, vertical and staff friction and increasing production lies in unity in man's organized relations to man. Here lies the hope of efficiency and cost reduction." J.G.L.

Supply Trade

(Continued from page 16)

ceeding **Royal D. Hawley,** retired. Mr. Hawley's services have been retained as consultant.

Andrew J. Wallner has been named assistant director of traffic, **Johns-Manville Corporation,** succeeding **Joseph J. Scully,** retired. **Harry F. Washburn** has been promoted to traffic manager.

William C. Otto has been named industrial sales manager of the Indianapolis division, **Cornell-Dubilier Electric Corporation.** He was formerly chief engineer of the division.

J. F. Haley, manager, traffic and transportation department, **Koppers Company,** has been made vice-president and manager of the department.

Robert A. Baer and **W. T. Richards** have been appointed West Coast representatives of the **Mid-West Forging & Manufacturing Co.,** to handle sale of the Improved Gautier Rail Anchor.

A merger of **Pyrene Manufacturing Company** and its wholly owned subsidiary, **C-O-Two Fire Equipment Company,** has been announced, with adoption of a new name—**Pyrene—C-O-Two Corporation.**

Appointment of **Major General Phillips W. Smith,** U.S. Air Force (retired), as executive vice-president of **Bowser, Inc.,** has been announced.

John F. Moran has joined **Donald J. Hogan Company,** as sales and service engineer.

Okonite Company has established a sales office and warehouse at 216 Burnet street, Syracuse, N.Y., in conjunction with **D. K. Post Co.,** manufacturers' agent. **Walter E. Garrigan,** district manager of Okonite's Pittsburgh office, has been appointed manager of the Syracuse office.

William K. Underhill, assistant plant manager of **Joseph T. Ryerson & Son, Inc.,** at New York, has been named sales manager for the Connecticut plant, at Wallingford.

Harry S. Clarke, formerly northeastern district sales manager, **Safety Car Heating & Lighting Company,** has joined the **Dana Corporation** as assistant sales manager of the railway division.

K. R. Chandler, of the service department of **Koehring Company,** has been appointed service manager, succeeding **G. N. Nelson,** retired.

A. Stewart Murray has been elected president of **Tyson Bearing Corporation,** subsidiary of **SKF Industries, Inc.** Mr. Murray has been assistant to the president of SKF, and a Tyson director.

William D. Labaugh and **David A. Mitchell** have been appointed assistant sales managers of the creosote and industrial pitch sales division, Barrett Division, **Allied Chemical & Dye Corp.,** with offices in New York and St. Louis, respectively.

Ralph W. Rawson has joined **Fansteel Metallurgical Corporation** as chief engineer in charge of the newly established centralized engineering department. **Joseph V. DiMasi,** assistant advertising manager, has been appointed advertising manager, succeeding **Allan L. Percy,** who continues as director of public relations.

Whiting Corporation has formed a new export division—**Whiting International,** with offices at 30 Church street, New York, devoted entirely to export business and overseas licensing.

M. J. Drackett has been appointed sales manager of the attachments section, industrial truck division, **Clark Equipment Company.** He was previously a sales engineer with **Modern Handling Equipment, Inc.,** Clark's Chicago distributor.

Offices of the **General American Transportation Corporation** are now in the Field building, Chicago.

W. Sheridan Huss, vice-president and general sales manager of Acme Steel Products division, **Acme Steel Company,** has been appointed president of the division, succeeding **John G. Bucuss,** retired. Mr. Bucuss will continue to serve the company in an advisory capacity.

Dayton Rubber Company has established new and larger offices and warehousing facilities at 925 Slocum street, Dallas, Tex., for its industrial V-belt division. **M. B. Roach,** southwestern regional manager, heads the expanded operation.

L. L. Duncan, director advertising and sales promotion, **D. J. Murray Manufacturing Company,** has also been made sales manager of the unit heater and mill supply division.

Giddings & Lewis Machine Tool Co. has been reorganized into a divisional-type company, the four main branches having been divided into separate divisions, with a general manager in charge of each. They are the G & L and Hypro division, Cincinnati Bickkford division, Kaukauna Machine & Foundry division, and Davis Boring Tool division.

James Suttie, vice-president of **American Steel Foundries,** retired January 31 after more than 44 years of service with the company.

Streamlined Cupola Not the Only Feature

This streamlined caboose was designed by the Great Northern's mechanical department and built in the road's St. Cloud, Minn., shops. Basic experimental features are its construction and mechanical operation. Steel sheets that form the outer sheathing have been flanged inward to serve as structural members of the car side, thus eliminating separate section posts. Another innovation is use of a positive drive on one axle to actuate the generator providing electricity for lighting. The generator itself is inside the car.

OBITUARY

James E. Davenport, 68, who retired in 1946 as vice-president, engineering, development and research, American Locomotive Company (now Alco Products, Inc.), died of a heart attack at his home in New York, January 24. Most of his career was spent with the New York Central, where he was assistant chief engineer motive power and rolling stock at the time he joined Alco in 1940.

A. S. Benton, representative of the Westinghouse Air Brake Company, Air Brake Division, at Atlanta, died there January 15. **V. D. Bethge,** export representative, died in New York January 6.

NOW...

400,000

CAR SETS!

Excuse us . . . please . . . our figures are showing again!

By December 31, 1955, our sales had passed the 400,000 mark. Actually, we now have sold 404,169 car sets of Barber Stabilized Trucks to more than 100 major railroads and private car lines in the United States and Canada.

We mention these new facts for *two* reasons: (1) There is no *better* way to convey to you the endorsement which the railroad industry has given our products; the leadership they have conferred on our company. (2) We're just plain *proud!* Standard Car Truck Co., 332 South Michigan Avenue, Chicago 4, Ill. *In Canada:* Consolidated Equipment Co., Ltd., Montreal 2.

Specify Smoother-Riding

BARBER

STABILIZED TRUCKS

Railway Officers

Schroeder Succeeds Devins As M&StL President

Albert W. Schroeder, vice-president—operations of the Minneapolis & St. Louis, has been elected president to succeed John W. Devins, who retires March 1. Mr. Devins will continue as a director. W. P. Coliton, superintendent of the Cascade division of the Great Northern, at Seattle, Wash., succeeds Mr. Schroeder as vice-president—operations.

Mr. Schroeder was born in Eustis, Neb., January 2, 1917, and was graduated from the University of Nebraska (B.S. in C.E. 1938). His railroad career began with the Burlington in 1939, with which he served as junior engineer, roadmaster and assistant to engineer of track. Mr. Schroeder joined the Chicago & Eastern Illinois in March 1949 as chief engineer and was named superintendent in December 1950, general manager in February 1953, and vice-president and general manager in June 1954. He joined the M&StL in November 1955 as vice-president—operations.

Mr. Coliton, 36, is a graduate of the University of Pennsylvania's Wharton School of Finance. He was in charge of a 90-mile narrow-gage railroad on the island of Corsica during World War II. He was awarded the Legion of Merit. In 1945 Mr. Coliton re-joined the Great Northern, for which he had worked as a section laborer during high school vacations. He became superintendent of the Cascade division in April 1955.

James E. Dare Elected President of the C&IM

James E. Dare, executive vice-president of the Chicago & Illinois Midland has been elected president, succeeding Fred L. Schrader, who retired January 31. M. E. Gustaveson, vice-president—operations, has been named vice-president and general manager.

Mr. Schrader came to the C&IM in 1926 as assistant to the senior vice-president. He was elected vice-president in 1940 and president in 1945. Before joining the C&IM he served with the Burlington and the Chicago Peoria & St. Louis.

Mr. Dare, born at Blue Island, Ill., March 2, 1910, graduated from the University of Illinois (B.S. in Mechanical Engineering 1931). He served with the Public Service Company of Northern Illinois before joining the C&IM in 1952 as executive assistant to the president. In 1954 he was appointed executive vice-president.

Mr. Gustaveson entered railroad service with the C&IM in 1927 as a yard clerk. He became assistant to general superintendent in 1944. He was appointed superintendent in 1948, and elected vice-president—operations in 1952.

DELAWARE & HUDSON.—**F. D. Lonergan,** assistant to vice-president and general manager at Albany, has been appointed assistant to vice-president—operation and maintenance, with jurisdiction extended to include the police department. **H. W. S. Bowen** has been appointed administrative assistant.

A. F. Cummings, assistant purchasing agent at Albany has been appointed assistant manager—purchases. **F. J. McGuinness,** superintendent stores at Colonie, N.Y., has been appointed assistant manager—stores. The positions of assistant purchasing agent and superintendent of stores have been abolished.

C. E. R. Haight, division superintendent at Oneonta, N.Y., has been named superintendent of the newly consolidated Pennsylvania-Susquehanna division at that point. **Philip W. Young,** assistant division superintendent and trainmaster at Carbondale, Pa., has been appointed superintendent of the Saratoga-Champlain division at Albany, succeeding **Arthur J. Sheehy,** who has been named superintendent—special duty, office of general superintendent of transportation at Albany. **George H. Bonville** has been appointed assistant to general superintendent of transportation; **Floyd C. Stark** has been named system rules examiner; **Francis D. Corbett** has become supervisor of power and train operations; and **Wendall J. Denton** has been appointed supervisor of stations and transfers, all at Albany. The positions of trainmaster—special duties, transportation assistant and supervisor of station service at Albany have been abolished.

J. C. Brennan has been named division engineer of the newly consolidated Pennsylvania — Susquehanna division at Oneonta and the position of division engineer at Carbondale has been abolished. **Orville W. Stephens,** assistant to chief engineer—maintenance at Albany, has been appointed engineer maintenance of way at that point. **Randolph J. D. Kelly,** construction engineer, has been named assistant to chief engineer, and the position of construction engineer has been abolished. **Howard B. Clarkson** has been appointed engineer of structures at Albany.

A. C. Allen, general diesel supervisor at Colonie, N.Y., has been named master mechanic of the newly consolidated Pennsylvania—Susquehanna division at Oneonta, N.Y., with jurisdiction over the equipment department there. The position of master mechanic at Carbondale, Pa., has been abolished, and **Thomas M. Murphy** has been appointed assistant master mechanic there, with jurisdiction over the locomotive section at Carbondale, Green Ridge and Wilkes-Barre. **Thomas H. Smailes,** division car foreman at Carbondale, has been appointed general car foreman at Hudson, Pa., with jurisdiction over the car section at Carbondale, Green Ridge, Hudson and Wilkes-Barre. **Thomas J. Bradley,** assistant to general diesel supervisor, has been promoted to assistant general diesel supervisor at Colonie and his former position has been abolished.

DULUTH, SOUTH SHORE &

(Continued on page 76)

Albert W. Schroeder

W. P. Coliton

James E. Dare

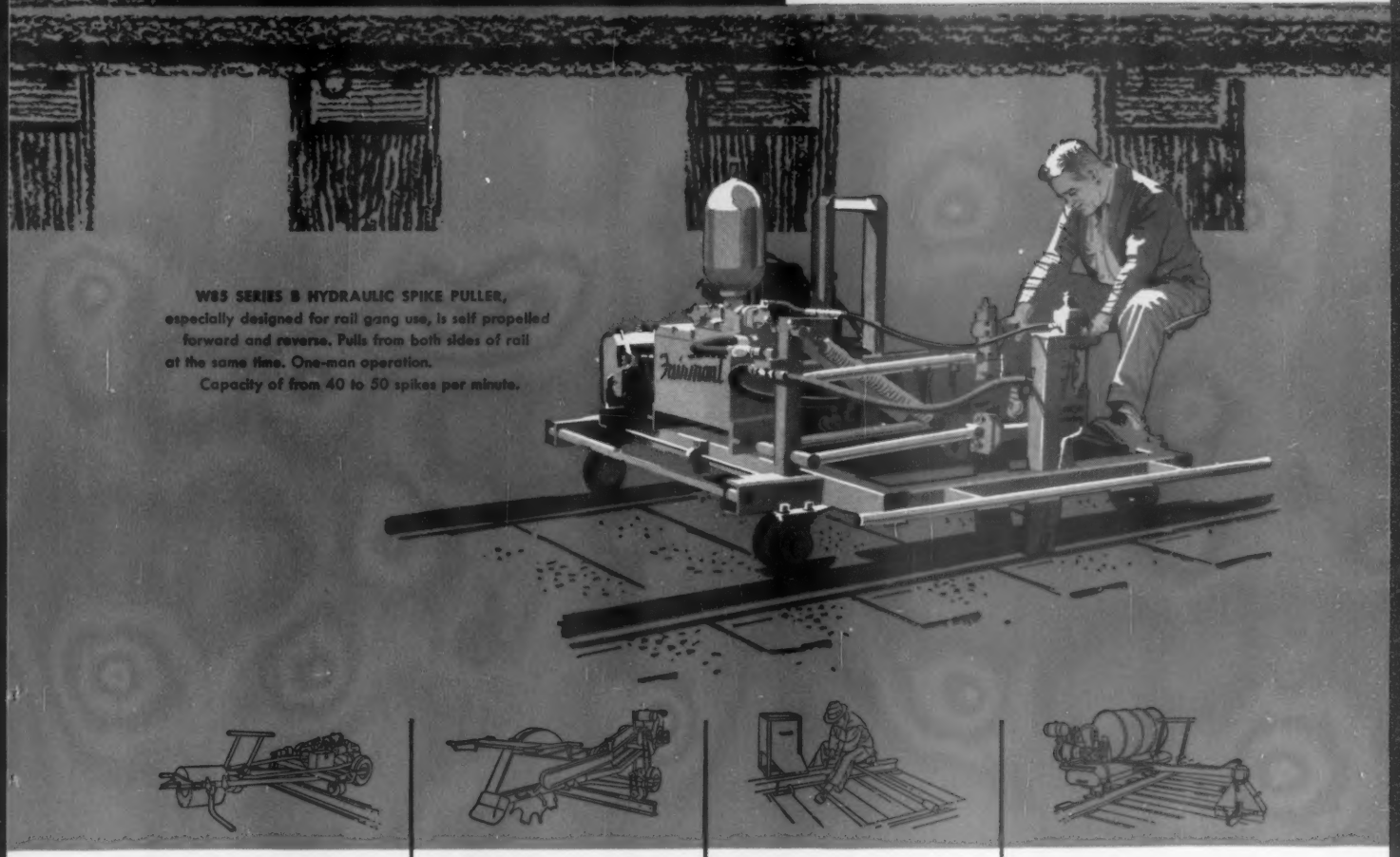
M. E. Gustaveson

When you think of

RAIL RENEWAL

. . . think of

Fairmont



W85 SERIES B HYDRAULIC SPIKE PULLER, especially designed for rail gang use, is self propelled forward and reverse. Pulls from both sides of rail at the same time. One-man operation. Capacity of from 40 to 50 spikes per minute.

W88 SERIES B TIE BRUSH cleans tie area under and adjacent to the tie plate. Hydraulically propelled, it is well suited to gang use ahead of adzers and for cleaning prior to applying plastic base to tie plates.

W89 SERIES A CRIB REDUCER digs out crib that might foul the teeth of adzer. Digging drive includes fluid coupling, multiple V belts and speed reducer. Adjustable counterbalance and two-way drive. One-man operation.

W79 SERIES A SPIKE SETTER CARRIAGE makes spike setting unusually easy and economical. Features include a convenient spike hopper; perfectly placed working seat; double-flanged rail wheels, two-rail, two-way operation.

W71 SERIES A TIE SPRAYER applies protective coating to newly adzed surfaces quickly and thoroughly. One-man operation. Automatic spray. Average consumption only 25 gallons of preservative per mile of single rail.

Certainly nothing is more important to safe, dependable rail transportation than sound, thorough rail maintenance. And there is no better way to achieve this priceless ingredient than to rely on Fairmont equipment. Fairmont manufactures a complete line of products for this vital task—each regarded as the standard of excellence in its particular sphere of operation. Individually, they represent the most recent developments and achievements available in their specific fields—and collectively, they provide the perfect answer to the entire rail renewal problem. We urge you to write for detailed information on any of these Fairmont products in which you might be interested. You will find that they incorporate all of the traditional Fairmont virtues of dependability, efficiency, thoroughness of work, and economy of operation. Taken together, they are convincing proof that, when you think of rail renewal, it pays to think of Fairmont!

FAIRMONT RAILWAY MOTORS, INC., FAIRMONT, MINNESOTA

MANUFACTURERS OF INSPECTION, SECTION AND GANG CARS, HY-RAIL CARS, MOTOR CAR ENGINES, PUSH CARS AND TRAILERS, WHEELS, AXLES AND BEARINGS BALLAST MAINTENANCE CARS, DERRICK CARS, OIL SPRAY CARS, GROUTING OUTFITS, TIE RENEWAL EQUIPMENT, RAIL RENEWAL EQUIPMENT, WEED CONTROL EQUIPMENT.

1575 new C & NW cars reflectorized with SCOTCHLITE
REFLECTIVE SHEETING

Cars identified at night as well as day...
for 'round-the-clock advertising and safety, too!

Vivid 4-foot letters of SCOTCHLITE Reflective Sheeting give 1575 C&NW freight cars a new look to be proud of! By night as well as by day, these striking markings sell C&NW name, service and safety with unmatched brilliance.

Reflectorization of your rolling stock can put 24-hour advertising on the road for you. Car manufacturers such as Pullman-Standard (builders of the new C&NW cars) can apply SCOTCHLITE Reflective Sheeting for letters, trademarks, delineators . . . and car numbers to ease and speed yard identification. Or you can brighten your cars in your own shops with colorful, easy-to-apply, durable markings.

Send today for details on the new SCOTCHLITE Reflective Sheeting car signing system . . . put advertising *and* safety to work for you *soon*.

Write Minnesota Mining and Manufacturing Co., Dept FQ-26, St. Paul 6, Minn.

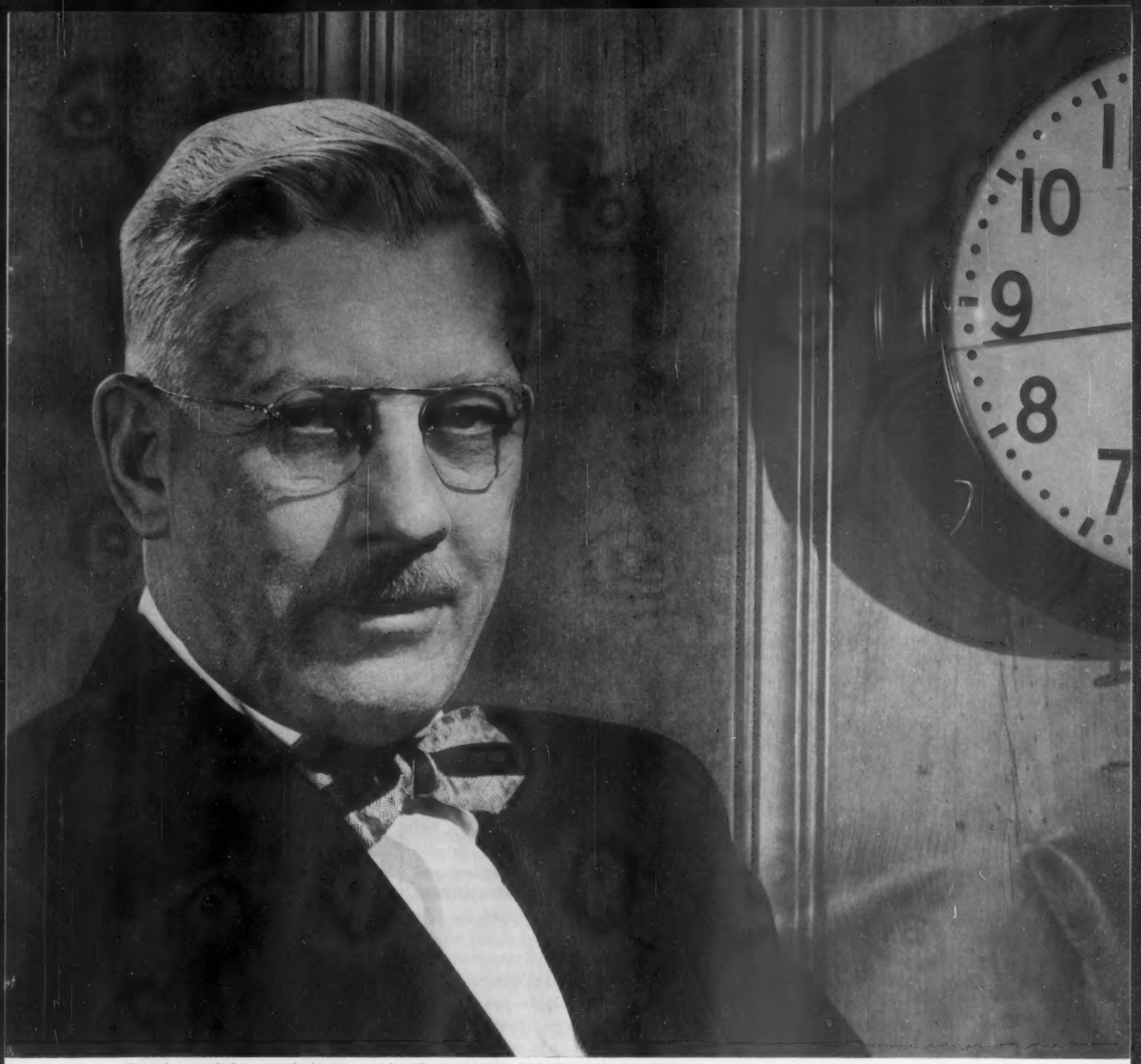
AMONG THE LEADING RAILROADS USING SCOTCHLITE ON ROLLING STOCK
REFLECTIVE SHEETING

Chicago GREAT WESTERN Railway · FRISCO · Great Northern Railway · Chicago North Western System · Union Pacific Railroad

REG U S PAT OFF
SCOTCHLITE
BRAND
REFLECTIVE SHEETING

3M COMPANY

The terms "Scotchlite" and "Flat-Top" are registered trademarks of Minnesota Mining and Mfg. Co., St. Paul 6, Minn. General Export: 99 Park Ave., New York 16, N. Y. In Canada: P. O. Box 757, London, Ont.



This is the second of a series of advertisements about the people of Standard.

HIS EYE IS ON THE CLOCK

We'd like to have you know Bill Bikle—he's in charge of applied logistics.

At Standard Railway he keeps the orders on time to keep your cars rolling. Bill is general manager of Sales Order Service. That's a big title. It's a big job.

At home, Bill Bikle exercises a green thumb in his garden, a skilled hand in his workshop and all the prerogatives of a fond grandfather.

We're proud of the way Bill makes friends for us among Standard Railway customers. Whether your order is for parts for new cars or for service on existing equipment you can count on his efforts to speed delivery. To see that everything is "right."

Bill Bikle is another reason why Standard Railway products and service make money for the roads by keeping cars *on the line, producing.*

Standard RAILWAY EQUIPMENT MANUFACTURING COMPANY

GENERAL OFFICE: 4527 Columbia Ave., Hammond, Ind. • New York • Chicago • St. Paul • San Francisco

Standard Railway Equipment Manufacturing Company, (Canada) Ltd., Sun Life Building, Montreal

MANUFACTURERS OF: Standard Improved Dreadnaught Ends—The Standard Diagonal Panel Roof—Standard Metal Floor Protectors—Standard Coupler Operating Device—Standard Positioning Device with Coupler Height Adjustment—and the Standard Wheel Truing Machine

You don't need work trains for scattered maintenance jobs

D Tournapull self-loads, hauls, spreads, and dozes. It can repair washouts, trim side-slopes, cut ditches, spread ballast, build bridge approaches, stockpile and reclaim coal, and plow snow. It "runs" job-to-job at 28 mph. Capacity is 7 yds. heaped . . . 9 yds. with sideboards.

One man, *working alone* with a D Tournapull can handle maintenance jobs that now take an entire work train and crew!

This rubber-tired off-track tool drives anywhere under its own power. It takes the shortest route . . . along the right-of-way, over paved highways, or cross-country. A phone call sets "D" in action. Operator just hops on and goes! 25 miles is less than an hour away.

On the job, the one man and one machine load, haul and spread, traveling at speeds up to 28 mph instead of the 3 to 7 mph of a crawler-tractor. It never interferes with revenue traffic. It works independently, self-loading on small jobs. 2 "D's" can push-load each other for team operations on big ones.

Find out more

Invite us to discuss your earthmoving problems. You can have confidence that we will recommend only the right tools for YOU, because no company has a greater interest in railroad success and economical operation. For decades, Westinghouse has supplied the best in brakes, switch and signal equipment. Now, through their wholly-owned subsidiary, LeTourneau-Westinghouse, they supply you with the best in off-track equipment, as well. May we have one of our earthmoving specialists call on you soon?

No planking needed, either

Tournapull crosses tracks without planking, does no damage to rails, ties, etc. Big, low-pressure tires deflect over obstructions, do not chamfer ties or trip signals.

Tournapull—Trademark
Reg. U.S. Pat. Off. DPT-644-RR-2

LeTourneau-WESTINGHOUSE Company
Railroad Sales Division
Peoria, Illinois
A Subsidiary of Westinghouse Air Brake Company

(Continued from page 72)

ATLANTIC.—T. J. Ruth, purchasing agent, has been appointed manager-purchases and stores, with headquarters as before at Minneapolis, and **C. F. Bucklin,** assistant general storekeeper at Marquette, Mich., has been named assistant manager-purchases and stores there.

FRISCO.—L. B. Clary, general manager at Springfield, Mo., has been

R. C. Grayson

R. L. Edmonson

L. B. Clary

appointed assistant vice-president operation at St. Louis. Mr. Clary's successor is **L. W. Menk,** assistant general

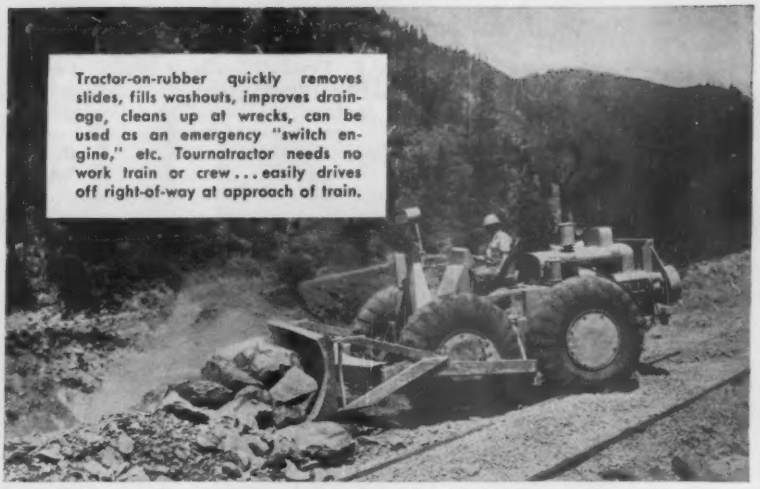
manager, Western district, who in turn has been succeeded by **H. H. DeBerry,** who has been transferred from the Eastern district. **R. C. Grayson,** superintendent, Southwestern division at Tulsa, Okla., replaces Mr. DeBerry. **W. W. Francis** has been transferred from the River division at Chaffee,

L. W. Menk

R. J. Doelling

Martin Pomphrey

Mo., to replace Mr. Grayson, and in turn has been replaced by **H. C. Bitner,** superintendent, Western division at Enid, Okla. Mr. Bitner's successor is **R. L. Edmonson,** assistant superintendent, Northern division at


Tractor-on-rubber quickly removes slides, fills washouts, improves drainage, cleans up at wrecks, can be used as an emergency "switch engine," etc. Tournatractor needs no work train or crew . . . easily drives off right-of-way at approach of train.

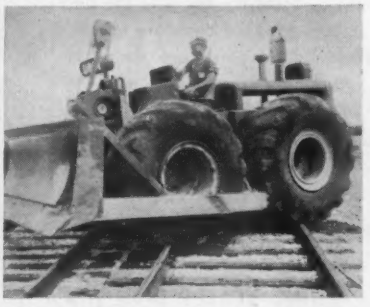
At a moment's notice...

"RUNS" to job under its own power

In less than 4 minutes, Tournatractor travels a mile under its own power to handle any railroad maintenance job in your yard or along the right-of-way. This 19 mph tractor does not damage tracks or switches, does not trip automatic block signals. It handles a wide variety of jobs quickly—cleans drainage ditches, removes slides, cuts down banks, fills washouts, reinforces causeways and bridge approaches. 1 man and 1 machine can domany of these and similar maintenance tasks *in a single day.*

Cuts dozing time in half. Tournatractor not only gets to jobs in less time than crawler-tractors . . . it also finishes them sooner. Four speeds forward to 19 mph and two speeds reverse to 8 mph help you complete most tractor assignments in as little as half the time that it takes the average crawler.

Tournatractor drives anywhere without planking. It follows the track or travels by highway. Tires do not damage ties, rail spikes and plates, switches, or trip block signals.



Compare Tournaractor's advantages with those of other tractors used in your division. You'll see why major railroads and dirtmovers are adding modern Tournatractors to their equipment fleets.

For more information, call . . .

NEW YORK
Red-Co.
30 Church St.

PHILADELPHIA
Furnival Machinery Co.
Lancaster at 54th Street

WASHINGTON, D.C.
J. B. Akers, Jr.
1102 Dupont Circle Bldg.

CLEVELAND 13, OHIO
The Cox-McGeorge Co.
Marshall Bldg.

ST. LOUIS
R. E. Bell Company
2089 Railway Exchange Bldg.

DENVER
Lloyd's Railway Supplies
401 Mercantile Bldg.

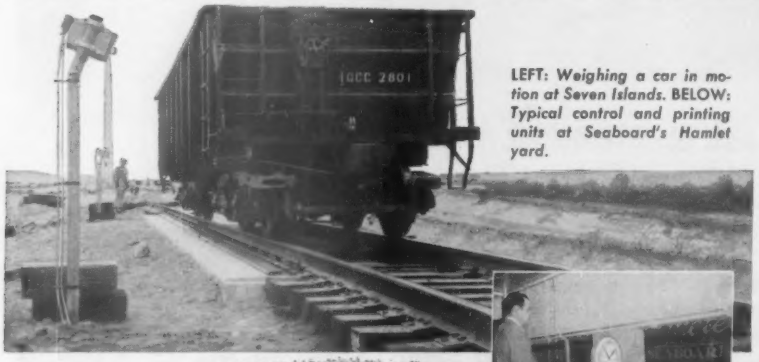
SAN LEANDRO, CALIF.
W. A. Blackford
802 Cary Drive

Tournatractor—Trademark T-781-RR-s

LeTourneau-WESTINGHOUSE Company
Railroad Sales Division
Peoria, Illinois
A Subsidiary of Westinghouse Air Brake Company

Fort Scott, Kan. **R. J. Doelling,** executive assistant, has been named assistant to vice-president purchases and stores. Mr. Doelling's headquarters are at St. Louis, but he will be stationed at Springfield. His successor is **Martin M. Pomphrey** (*Railway Age*, January 2, page 15). **T. S. Sullivan** has been appointed assistant superintendent at Thayer, Mo., replacing **H. A. Linderer,** who has been transferred to Joplin, Mo. **L. J. King, Jr.,** terminal trainmaster at St. Louis, has been named assistant director of terminals at Springfield, and **C. C. Lane,** brakeman at Springfield, has become safety supervisor at Fort Scott. **Robert E. Tyndall** has been appointed supervisor freight loss and damage prevention at Tulsa. The following have been appointed terminal trainmasters: **L. T. Ables** and **F. E. Wait, Jr.,** Kansas City, Mo.; **J. M. Ward,** St. Louis, and **J. R. Warfield,** Springfield.

Edward G. Kreyling, Jr., formerly director of research, Laclede-Christy Company, has been named to head the newly created Traffic Research Department.



LEFT: *Weighing a car in motion at Seven Islands.* BELOW: *Typical control and printing units at Seaboard's Hamlet yard.*

Weighs 100 cars in 20 minutes "on the fly"

All iron ore from the new Labrador fields—over 6 million tons in 1955—is weighed in motion by these Cox & Stevens electronic track scales. Installed by Iron Ore Company of Canada at Seven Islands, the scales automatically print-weigh a train of 100 cars in just 20 minutes!

After extensive experience, the Company reports: "Fast motion weighing . . . approximately twice as fast . . . accuracy equal to the best . . . maintained over longer periods . . . maintenance costs are low."

Many other modern railroad classification yards are now speeding all types of freight to destination . . . thus making available more cars . . . with accurate electronic motion weighing. The "Electro-Load" scales can be linked with machine tabulating, teletype or other automatic systems, saving time and paper work and preventing human error.

See what Cox & Stevens electronic track scales can do to reduce weighing costs, speed up delivery, and increase customer service.

COX & STEVENS ELECTRONIC SCALES DIV.

Revere CORPORATION OF AMERICA 14

WALLINGFORD, CONNECTICUT A Subsidiary of Neptune Meter Company

William J. Irwin, eastern traffic manager for the **Quanah, Acme & Pacific** at Pittsburgh, Pa., became

William J. Irwin

assistant traffic manager for the Frisco at New York January 1.

MILWAUKEE.—M. W. Roark, assistant general adjuster, has been appointed general adjuster at Chicago, succeeding **L. D. Phelan,** who retired December 31, 1955.

G. M. Ryan, freight traffic manager, rates and divisions, has been named general freight traffic manager, rates and divisions, and **J. M. Cunningham,** freight traffic manager, sales and service, has become general freight traffic manager, sales and service, both with headquarters as before at Chicago. Mr. Ryan's successor is **R. E. Hibbard,** assistant freight traffic manager, rates and divisions, and **W. D. Sunter,** assistant freight traffic manager, sales and service, replaces Mr. Cunningham. **M. M. Wolverton,** assistant general freight agent at Milwaukee, has been appointed general freight agent there.

MISSOURI-KANSAS-TEXAS. — H. F. Kendall, general eastern passenger agent at New York, has been appointed division passenger agent at Dallas, Tex., succeeding **M. P. Curtis,** who has retired after more than 47 years of service. **R. A. Jordon** replaces Mr. Kendall at New York.

Monroe E. Clinton, general attorney at Dallas, has been appointed assistant general counsel at St. Louis.

Royce L. Walters, freight and passenger agent at Wichita Falls, Tex., has been appointed general agent to head a new traffic office at Shreveport, La., which is expected to begin operations in mid-February.

NEW HAVEN.—Under a revised organizational set-up, three terminal superintendents hereafter will report directly to the general manager, instead of to the division superintendent. They are: **John A. Gregg,** trainmaster at Taunton, Mass., who has been appointed terminal superintendent at Cedar Hill freight terminal at New Haven; **Keith P. Young,** superin-

Hot showers—with plenty of hot water spraying at real rinsing pressure, is just one of the conveniences-of-home that M/W Crews enjoy in Morrison-International CAMPCARS.

CAMPCARS are designed, engineered and built by railroad men — and offer the important facilities, and money-saving advantages that railroads are seeking today.

Let us show you how thousands of dollars can be saved annually when CAMPCARS are moving, housing, and servicing your M/W crews. Savings in man-hours, crew housing, and maintenance.

Just write for complete information on the seven standard CAMPCAR models available. You see how from 2 to 50 men or more can live independently of utilities and servicing for up to 10 days . . . and how 8 men can live more cheaply than the hotel allowance for one. It's an interesting and vital study.

MORRISON INTERNATIONAL CAMPCARS

Designed, Engineered & Built by a Railroad Supplier of over 30 years.

INTERNATIONAL EQUIPMENT DIVISION

MORRISON RAILWAY SUPPLY CORP.

1437 BAILEY AVE.
BUFFALO 12, N. Y.

It takes a tough building to handle massive repair jobs

and BUTLER's doing it for the railroads

Nobody knows better than railroad men the many advantages of steel—toughness, durability, fire-safety, permanence—over other materials. That's why Butler steel buildings are being used more and more in railroad maintenance. Rigid-frame, all-steel construction gives Butler buildings strength to support monorails . . . to accommodate crane supports to lift heavy railroad loads. Fire hazard is minimized — there's nothing to burn.

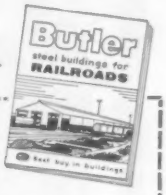
Bolted construction permits fast, low-cost erection, easy expansion to any size—and in any direction—with 100% salvage of materials. Pre-engineered and precision punched and formed, Butler steel buildings are weather-tight, afford unsurpassed protection for men and equipment.

Send for free booklet on "Butler Steel Buildings for Railroads." Eight pages of factual information on variety of uses, construction features, sizes.

BUTLER MANUFACTURING COMPANY

Oil Equipment • Steel Buildings • Farm Equipment
Dry Cleaners Equipment • Special Products

Factories at Kansas City, Mo. • Galesburg, Ill. • Minneapolis, Minn.
Richmond, Calif. • Houston, Texas • Birmingham, Ala.



For prompt reply, address
BUTLER MANUFACTURING COMPANY
7371 East 13th Street, Kansas City 26, Missouri
971A Sixth Ave., S.E., Minneapolis 14, Minnesota
1019 Avenue W, Ensley, Birmingham 8, Alabama
Dept. 71A, Richmond, California
Send me free booklet, "Butler Steel Buildings for Railroads."

Name_____

Road (or Firm)_____

Address_____

City_____ Zone____ State_____

tendent of terminals at Harlem River freight terminal at New York, who continues with that title; and **Leo B. Gallagher,** assistant superintendent at Grand Central Terminal, who has been promoted to terminal superintendent there.

Frank P. Doran, assistant trainmaster at New Haven, has been appointed trainmaster at Cedar Hill. **Frank T. Shanley** and **Hugh F. Vaughan** have been named trainmasters at New Haven and Stamford, respectively. **Thomas C. Casey,** trainmaster at Danbury, has had his jurisdiction extended to include the territory from Devon to Shelton, from Hopewell Junction to Maybrook, and the Beacon branch. **Claude M. Hearn,** trainmaster at Stamford has been transferred to Waterbury. **Frank E. Moran, Jr.,** trainmaster at New Haven, has been transferred to Taunton.

RAILWAY EXPRESS AGENCY.—Harry J. Bennett has been appointed Western sales manager at Chicago, succeeding **R. E. Sipple,** who has been advanced to assistant director, sales at New York.

SANTA FE.—John P. Morris, general manager—mechanical department at Chicago, retired December 31, 1955, after more than 50 years of service. An early believer in diesel power, Mr. Morris helped develop dynamic braking and contributed, among other things, to development and use of oil filters on diesel locomotives. Mr. Morris's successor is **Thomas T. Blickle,** mechanical superintendent at Los Angeles, who in turn has been succeeded by **Harold F. Mackey,** mechanical superintendent of the Eastern mechanical district at Chicago. **Vernon L. Marlo,**

John P. Morris

superintendent of shops at San Bernardino, Cal., replaces Mr. Mackey. **John W. Luke,** master mechanic at Argentine, Kan., succeeds Mr. Marlo, and in turn has been replaced by **H. N. Chastain,** who has been transferred from Chicago. **Louis L. Luthey** has been transferred from Galveston, Tex., to replace Mr. Chastain at Chicago. Mr. Luthey's successor is **J. L.**

Thomas T. Blickle

Fertig. J. C. Garren has been appointed superintendent of shops at Wichita, Kan., succeeding **P. B. Rogers,** who has retired after more than 46 years of service.

Ralph L. McDaniel, division engineer at Fresno, Cal., has been named district engineer of Coast Lines at Los Angeles, to succeed **R. E. Chambers,** retired. **Wilbur L. Seabridge,** division engineer at Galveston, Tex., succeeds Mr. McDaniel.

TEXAS & PACIFIC.—Dr. S. J. Feducia has ben appointed chief surgeon at Marshall, Tex., succeeding the late **Dr. John E. Hill.**

WABASH.—William G. Duchek, merchandise agent, has been named general agent, heading the newly created Merchandise Department, which will handle sales, service and rates on piggyback shipments, forwarder and LCL traffic. Mr. Duchek's successor is **F. Paul Rudolph,** assistant chief of the Tariff Bureau.

George F. Harrigan, assistant freight traffic manager at St. Louis, has been advanced to freight traffic manager—sales and service there, replacing **Paul A. Spiegelberg,** retired (*Railway Age,* September 19, 1955, page 68). Mr. Harrigan's successor is **Earl C. Perkins,** general freight agent, who in turn has been replaced by **Downie C. Pate,** general freight agent of the subsidiary New Jersey, Indiana & Illinois at South Bend, Ind. **George W. Young,** general freight agent, has become assistant freight traffic manager. **Frank P. Scharffenberger,** general freight agent—rates and divisions, has been appointed freight traffic manager—rates and divisions, succeeding **Arthur W. Richardson,** whose appointment as assistant vice-president—traffic was announced in *Railway Age,* January 2, page 15. **Charles B. Willi,** assistant to the freight traffic manager, replaces Mr. Scharffenberger. **George T. Barry,** commerce agent, has been named assistant to the freight traffic manager—rates and divisions.

All cans are not alike

INSIST ON

EAGLE

SAFETY CANS

Approved by Underwriters Laboratories & Factory Mutual

FREE-SWING TYPE
2½ and 5 gal.

THE COMPLETE LINE

TRIGGER TYPE
1 qt., 2 qt.
1 gal.

- Available in 5 sizes from 1 qt. to 5 gal.
- No waste, no splash, no spill
- Strong 1-piece construction—no seams
- Self-adjusting guard cap prevents leakage
- Safe for handling all explosive and flammable liquids

Order from your supplier or write us for information. Eagle products are also available in Canada.

EAGLE MANUFACTURING COMPANY • Wellsburg, W. Va.
Serving Industry Since 1894

Why freeze your dollars in communications equipment?

When the Bell System furnishes your communications, you profit from many important advantages.

1—Your money is not "frozen" in equipment, but is free to produce income.

2—You pay only a monthly charge for services tailored to your exact needs.

3—You avoid a large capital investment.

When you use Bell System communications, you eliminate all problems concerning maintenance and obsolescence. Also, you get the benefit of trained personnel, expert servicing and continuing analysis.

If you haven't taken a good look at your communications lately, why not let a Bell System communications engineer survey your needs without cost or obligation. Call your Bell Telephone representative.

BELL TELEPHONE SYSTEM

SPENO

BALLAST CLEANING and RAIL GRINDING SERVICE

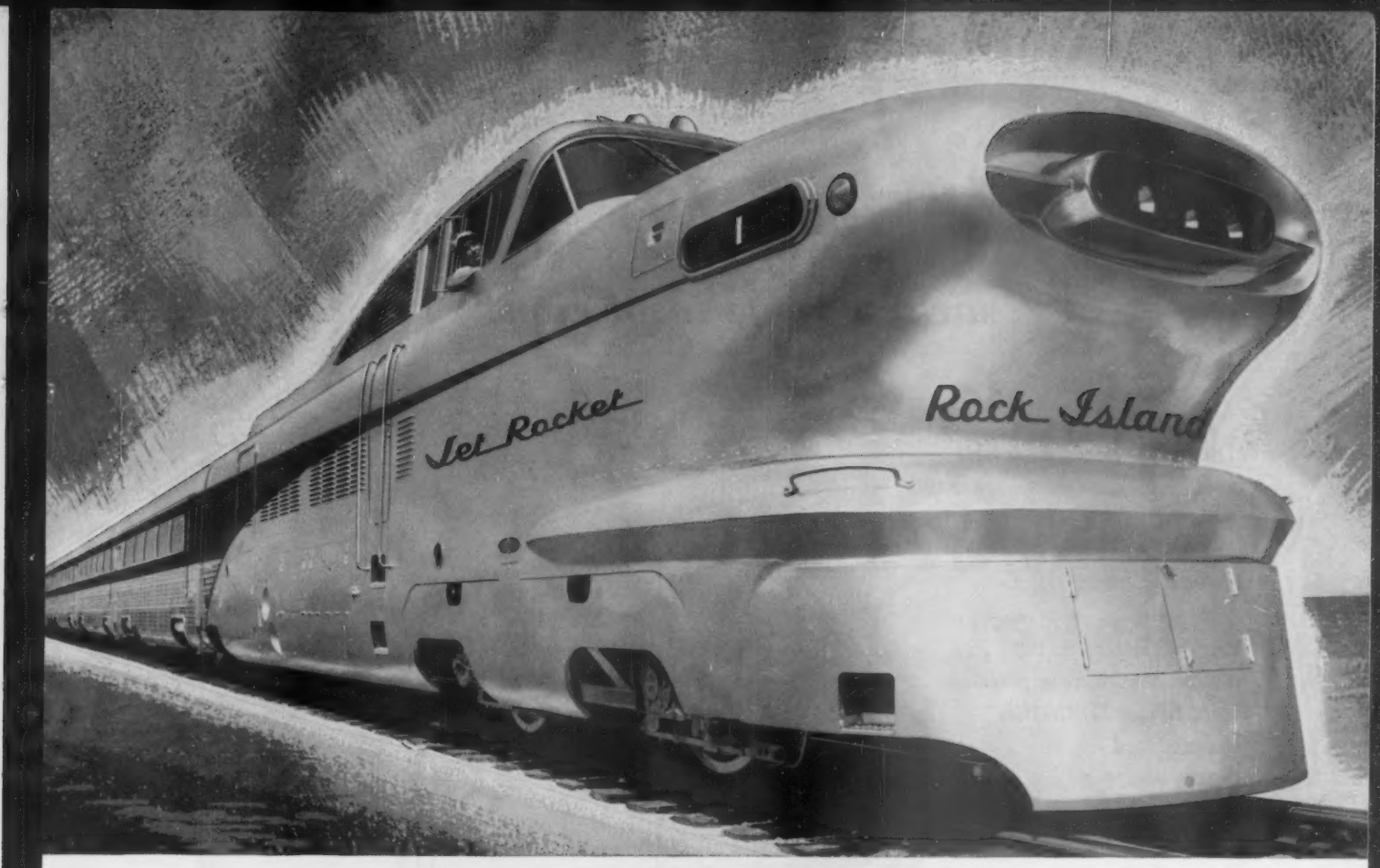
The exclusive SPENO Method of Ballast Cleaning and the SPENO Rail Grinding Train have proved themselves to be time, cost, and maintenance savers for our contractual clients.

You may contract for one or both of these services—secure that you have joined company with many other outstanding and forward looking railroads.

Write today for future availabilities of equipment.

Just Ask the Railroads That have used us!

FRANK SPENO RAILROAD BALLAST CLEANING CO., INC.
306 North Cayuga St., Ithaca, N. Y.



Fuel for The Jet Rocket

...and lubricants, too...by STANDARD OIL

SIXTY YEARS! Yes, six decades ago Standard Oil started to serve the Rock Island with lubricants. Twenty years ago Standard became one of the first to supply diesel fuels to this great railroad. The Rock Island's Jet Rocket, superspeed streamliner carrying passengers between Chicago and Peoria is fueled for one of the fastest surface schedules on this continent with Standard Oil diesel fuel. Lubricants for the Jet Rocket are compounded from Standard basic lubricating oils.

As with the Rock Island, railroaders in 15 Midwest and Rocky Mountain states look upon Standard Oil as a dependable source of supply for diesel fuels and lubricants.

STANDARD

STANDARD OIL COMPANY (Indiana)
910 South Michigan Avenue, Chicago 80, Illinois

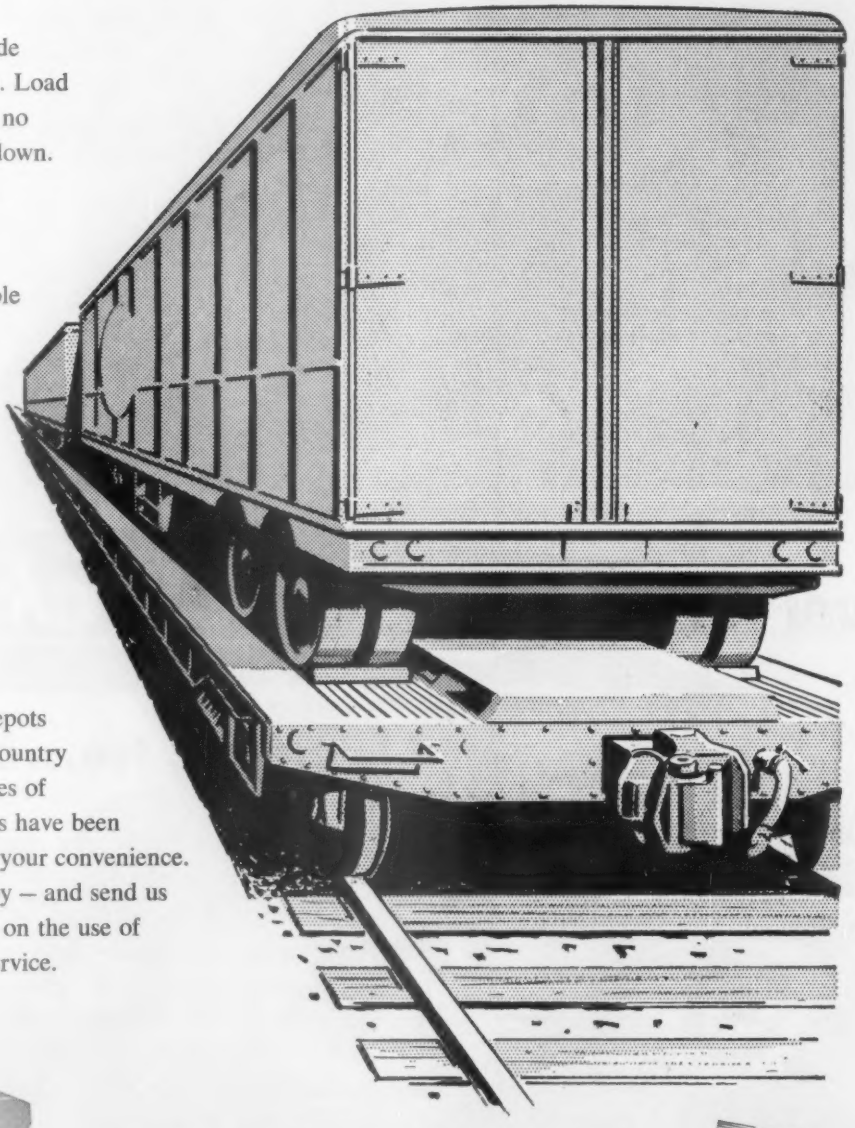
Pureco "DRY-ICE" gives you "cold" protection

. . . saves enroute inspection!

"DRY-ICE" needs no outside power supply or supervision. Load it – and forget it. There are no mechanical parts to break down. It's unaffected by vibration.

Use "DRY-ICE" in both stationary bunkers or portable units. In tests "DRY-ICE" has produced exactly *controlled* temperatures from ten below zero to 60 degrees F. Its reliable cold protects perishables with maximum efficiency, minimum cost per mile.

A network of 100 Pureco depots are located throughout the country to assure you of fast deliveries of "DRY-ICE". These locations have been listed in a handy booklet for your convenience. Write or call us for your copy – and send us any questions you may have on the use of "DRY-ICE" in Piggyback service.



AT THE FRONTIERS OF PROGRESS YOU'LL FIND . . .

Pure Carbonic Company

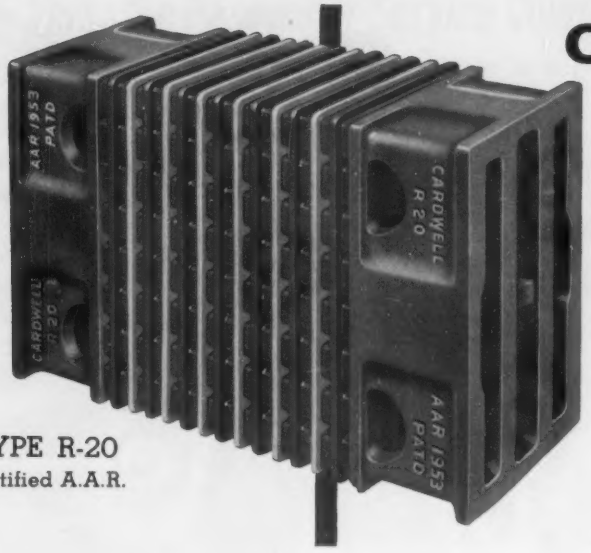
NATIONWIDE "DRY-ICE" SERVICE-DISTRIBUTING STATIONS IN PRINCIPAL CITIES

GENERAL OFFICES: 60 EAST 42ND STREET, NEW YORK 17, NEW YORK

PURE CARBONIC COMPANY is a division of **AIR REDUCTION COMPANY, INCORPORATED** • Principal products of other divisions include: **AIRCO** — industrial gases, welding and cutting equipment and acetylenic chemicals • **OHIO** — medical gases and hospital equipment • **NATIONAL CARBIDE** — pipeline acetylene and calcium carbide • **COLTON** — polyvinyl acetates, alcohols and other synthetic resins.

Interchangeable

CARDWELL RUBBER DRAFT GEAR



TYPE R-20
Certified A.A.R.

PRE-COMPRESSED..EASILY INSTALLED..NO SPECIAL ATTACHMENTS

Fits standard 24⅝-inch pockets! Uses two standard 2¼-inch followers per gear. Without draft rigging changes of any kind, Cardwell R-20 Rubber Draft Gears are completely interchangeable.

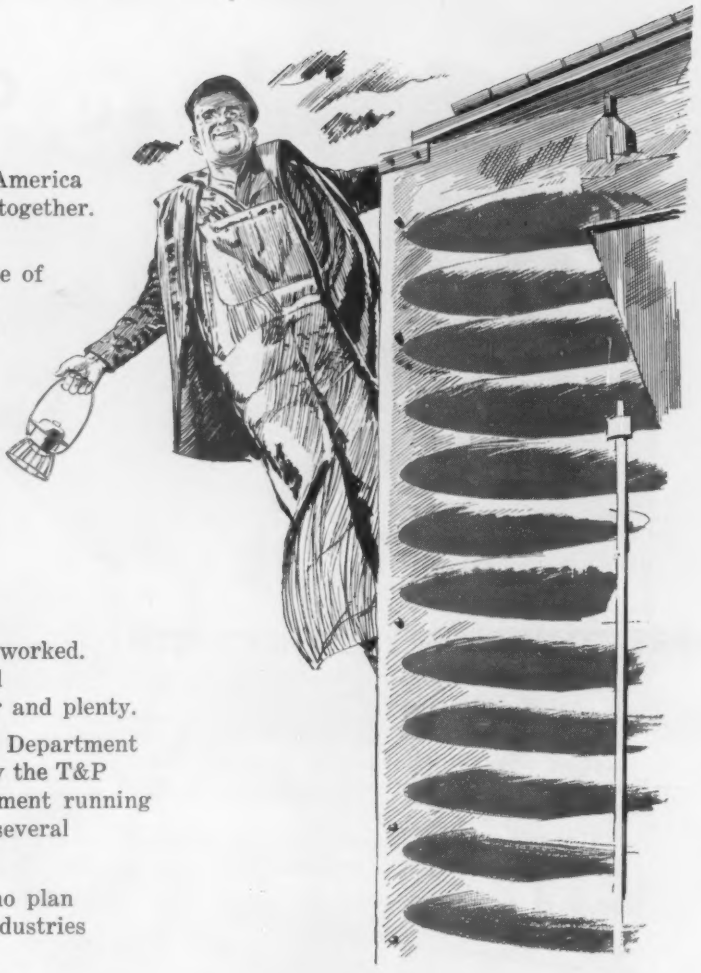
The R-20 is self-contained, factory-assembled, pre-compressed for easy installation. It is symmetrical . . . either end may be applied toward the coupler butt.

Performance-wise, the R-20 surpassed by good margins A.A.R. tests for capacity, endurance and sturdiness under M-901A specifications. A companion gear, the R-18 Cardwell Rubber Gear for 18½-inch pockets, also is A.A.R. Certified!

Specify Cardwell Westinghouse Draft Gears . . . Friction or Rubber type. Send today for catalogs.

Cardwell Westinghouse Co.
332 S. Michigan Ave., Chicago 4, Illinois
Canadian Cardwell Co. Ltd., Montreal

TEAMWORK



The progress and the development of America is largely the result of people working together.

In the economic growth of our cities and communities there is a complicated maze of interdependence . . . for neither individuals nor business enterprises can live unto themselves. They must live and work together . . . with faith in the inherent honesty of each other . . . and with respect for personal rights and individual liberties. They can grow strong only by helping others to grow strong.

The men who founded the T & P had an abiding sense of responsibility to the people with whom they lived and worked. Together they helped transform a rugged frontier into a land of prosperity, power and plenty.

In the past several years our Industrial Department has brought to the communities served by the T&P many new industries, with plant investment running into many million dollars and employing several thousand people.

The men and women of our railroad who plan and lay new tracks to serve these new industries contribute much to the economic development of the communities we serve.

They strive to be good neighbors . . . helpful and cooperative members of a community team.

That is a sound and rewarding policy. It is the kind of policy by which the men and women of our railroad live and work.

GO T&P SHIP

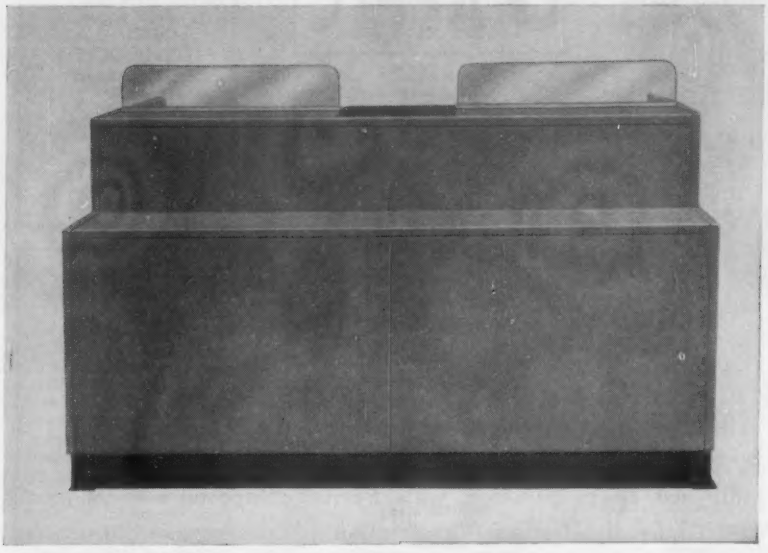
TEXAS AND PACIFIC RAILWAY

Remington Rand

BETTER BUSINESS METHODS

For Greater Profits Through Lower Costs

Centralized Cashiering and Customer Contact via New Versatile Passenger Service Counter



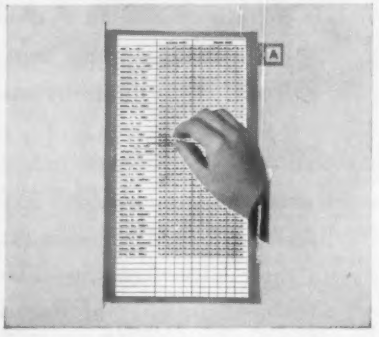
This counter offers custom-made beauty and efficiency without custom-made limitations, and at a mass-production price. In the small passenger ticket office, it is economical to combine cashiering and record-keeping functions. One Passenger Service Counter Unit accommodates all facilities and records for these operations. In larger offices, two or more sectionalized units can be combined to suit any space requirements, giving the required number of work stations while maintaining the streamlined appearance.

The counter promotes pleasant, rapid, face-to-face service to passengers...offers them ideal counter height for necessary business transactions, and a convenient, continuous parcel shelf. The working side is compact without being crowded, with all facilities within arm's reach. A Special Cross File Unit, to hold inactive records (such as tickets sold in advance pending actual use) can be included.

Certified, insulated units installed in the counter provide 24-hour "Point-of-Use" protection for valuable records against fire.

For further details on this extremely functional unit, read folder SC764, offered in the coupon.

Remington Rand Linedex Panels Cut Reference Time



Linedex aids ticket clerks in locating quicker routing and fare information. Positioned in the work area of the Passenger Service Counter, the unit requires small space and delivers "eye-fast" reference data.

Lindex insert strips are easily removed, when changes in fare or routing information are needed. Better customer service is a desired end result produced with Linedex Visible Reference Equipment. For improving service to your passengers by rendering information quicker, consult folder KD734.

Time, Labor and Space Saved with Mechanized Kard-Veyer

The new Remington Rand Kard-Veyer is an electrically-powered card filing unit that delivers any desired card in a matter of seconds... that provides finger-tip control of up to 40,000 records in a single mechanized unit!

SAVES TIME. Kard-Veyer speeds reference and posting time.

SAVES SPACE. Kard-Veyer's tremendous record capacity gives you the most profitable space utilization.

SAVES LABOR. Fewer people, in less space, with less effort, do more work.

This unit is ideal for handling interline passenger and freight revenue apportionments. It is also excellent for other active card records, such as Pricing records and the Loss and Damage Claims Index. More "money-saving" detailed information is available in folder LBV706.

Remington Rand

DIVISION OF SPERRY RAND CORPORATION

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SC764 KD734 LBV706

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RAILWAY FREIGHT TRAFFIC

will highlight "PERFECT SHIPPING" campaign

The April 1956 issue of *Railway Freight Traffic* will be a "Perfect Shipping" feature, published in conjunction with Perfect Shipping Month, which is sponsored by the National Association of Shippers Advisory Boards in cooperation with the A.A.R.

The April issue will focus attention on this campaign through a round-up of information on how the railroads are attacking freight loss and damage. It will contain feature articles on Perfect Shipping written from the viewpoint of both the industrial traffic man and the railroads; and, the Monthly Traffic Poll will cover a question pertinent to Perfect Shipping.

Advertisers should plan to tie-in with this industry-wide campaign. Reserve space well in advance and prepare copy based on this subject. In the past, many advertisers have used the official "Johnny Careful" poster in conjunction with their advertisements. The final closing date for the April "Perfect Shipping" number of *Railway Freight Traffic* is March 9, 1956.

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Yes, it's a new Cornell-Dubilier idea. Install the *single vibrator* economy Model 3600 converter *now* and convert to a *dual vibrator*, automatic switchover unit at any future time. Change over in a few seconds without tools.

Same rugged dependability as the nationally famous "3200 Series C-D RR Converter" but priced for low cost initial (single vibrator) installation. 50% longer vibrator life expectancy.

Write for Bulletin EB-3600, Cornell-Dubilier Electric Corp., Indianapolis, Indiana. Affiliated Member A.A.R.

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Field changeover like a vacuum tube. Kit can be plugged-in in minutes without tools.

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Available initially for dual vibrator operation factory equipped with automatic changeover feature.

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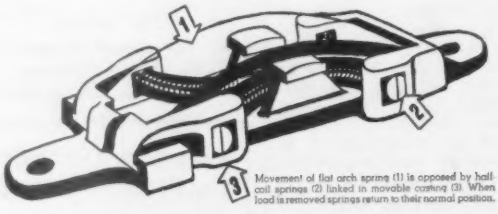

Movement of flat arch springs (1) is opposed by half-coil springs (2) linked in movable casting (3). When load is removed springs return to their normal position.

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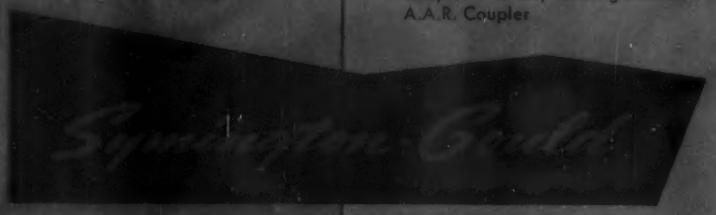
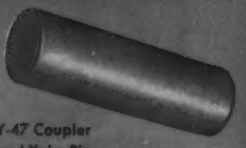
High Speed Freight Service with new, improved



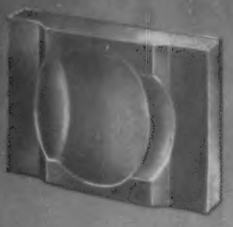
Here's why you should specify Symington-Gould Type F Interlocking Couplers

- Interlocking feature prevents vertical slipovers and serves to keep cars in alignment, preventing climbing or overturning in event of derailment
- Reduction of free slack
- Threefold anti-creep protection
- Easier operation
- Couples with any existing standard A.A.R. Coupler
- Safety shelf on F Coupler is designed to support mated coupler in event of pull-out
- Increased service life
- Increased strength
- Lower maintenance cost with Type F Coupler contours holding gage longer because of restricted vertical movement and reduced free slack

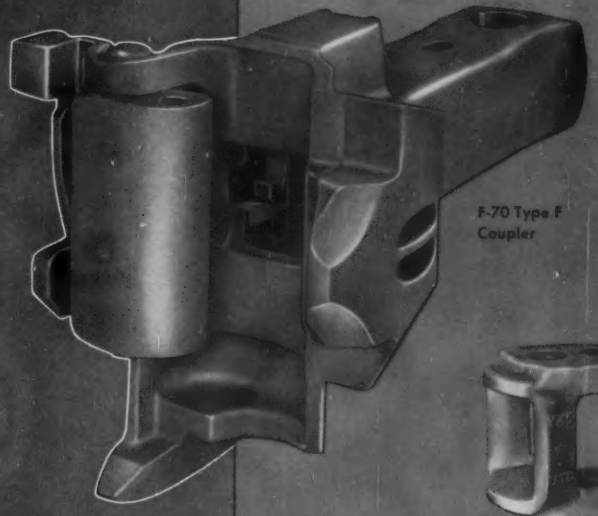
TYPE F INTERLOCKING COUPLERS



Y-47 Coupler and Yoke Pin



Y-46 Front Follower



F-70 Type F Coupler

Y-37 Yoke for Twin Draft Gear

Y-45 Yoke Standard Pocket

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New TIMKEN® heavy-duty AP (all-purpose) bearings will go 3 yrs. without adding lubricant!

Terminal bearing inspection time is cut 90%, cost of lubricant up to 89%

ONE of the most costly operating problems of the railroads is the frequent inspection and care of friction bearings on freight car journals. A friction bearing journal box normally has its lid lifted at every terminal for inspection and about three out of four usually need oil. American railroads have in all about 16,000,000 freight car journal boxes to care for. It's a staggering and expensive job.

But there's an answer to this problem . . . it's the new Timken® *heavy-duty* AP (All-Purpose) freight car journal bearing assembly that will go *for three years* without adding lubricant and needs no lubricant inspection during this period. Just a touch of the hand on the adaptor cover for temperature will do it.

With Timken tapered roller bearings on freight car journals, terminal bearing inspection time is cut 90%, cost of lubricant up to 89%. And with the new Timken bearing assembly, the railroads can virtually forget bearing inspections until freight cars are pulled in for the regular three-year air brake inspection. The added savings resulting from tying-in with planned maintenance schedules will be substantial.

Railroads using the new Timken AP (All-Purpose) assembly know they cost less to install and to use as well. They come from the factory, pre-assembled and pre-greased, ready to press right onto the axle. The new assembly fits all types of standard side frames. Only one type of bearing assembly needs to be carried for maintenance.

For the full story, phone or write The Timken Roller Bearing Company, Canton 6, Ohio. Canadian plant: St. Thomas, Ontario. Cable address: "TIMROSCO".

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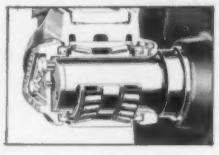
TAPERED ROLLER BEARINGS



NOT JUST A BALL ○ NOT JUST A ROLLER ▭ THE TIMKEN TAPERED ROLLER ▭ BEARING TAKES RADIAL AND THRUST LOADS OR ANY COMBINATION